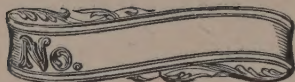


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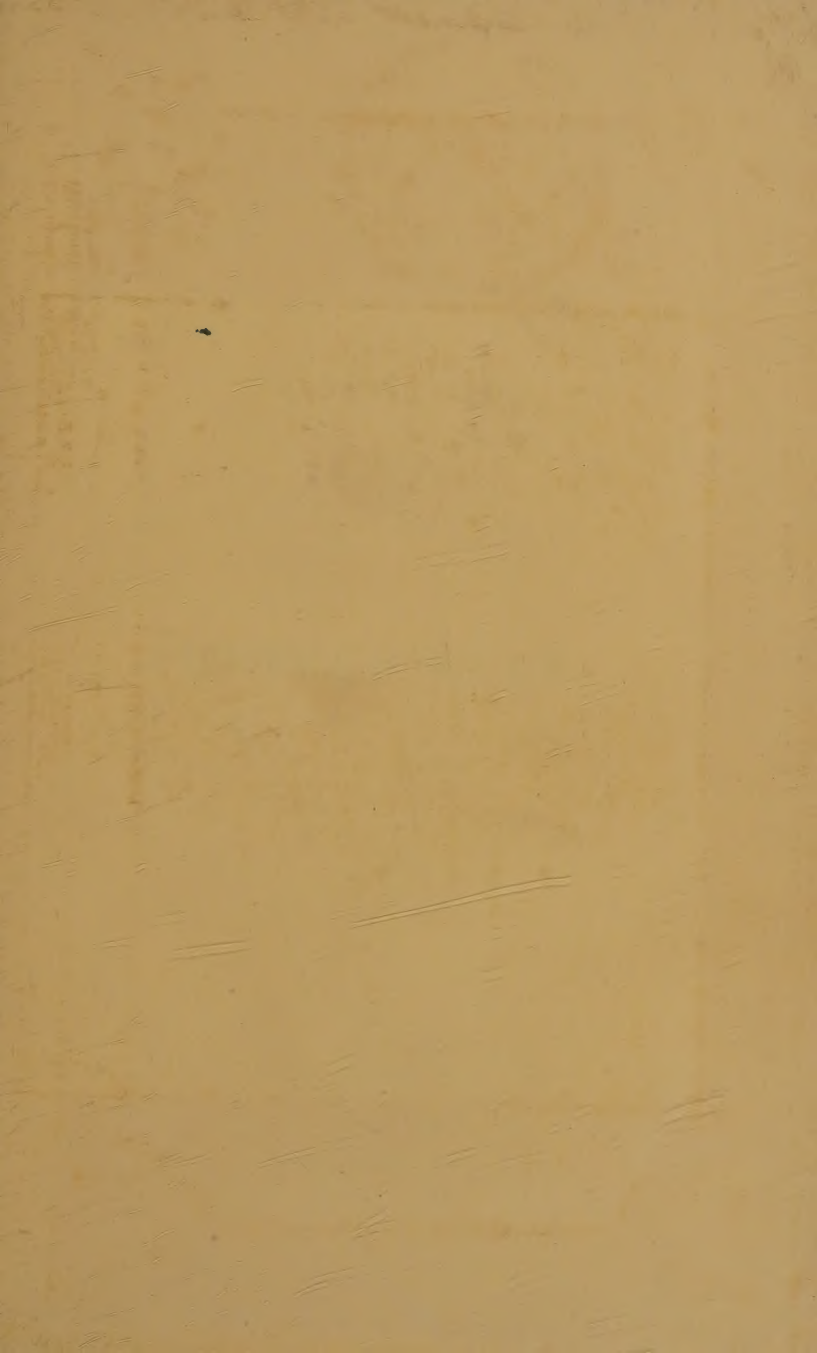
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IRRITABILITY.

IRRITABILITY:

POPULAR AND PRACTICAL SKETCHES

OF

COMMON MORBID STATES, AND CONDITIONS
BORDERING ON DISEASE,

WITH HINTS FOR

MANAGEMENT, ALLEVIATION, AND CURE.

BY

JAMES MORRIS, M.D. LOND.,

FELLOW OF UNIVERSITY COLLEGE; FELLOW OF THE ROYAL COLLEGE OF SURGEONS,
ETC. ETC.

“A subject this unlectured in our schools.”



LONDON:

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MDCCCLXVIII.



PREFACE.

IN this brochure I treat of symptoms often found on the frontiers of disease, near the line—so hard to draw—which separates it from health; symptoms of which one or more taken by themselves may not indicate actual disease though in conjunction with others they may do so; and symptoms which are the forerunners of disease.

I shall endeavour to handle my heterogeneous materials in a practical and popular manner, to weld them into a little work not cumbered and rendered unreadable by the narration of cases, and yet containing experience derived from many.

If read by those who suffer from the ailments of which it treats it will at least not harm, rather I hope will benefit them; and if read by those about such will aid them in the care of their

suffering friends, and encourage them in forbearance towards them. The book is not at all written for his brother practitioners—its point of view is not intentionally medical; but if it fall into their hands the author believes that they will find here and there things well worthy of their thoughtful attention.

The subject of treatment by drugs is purposely omitted; it is of great importance, but its intricacy and difficulty when fairly viewed in its different aspects and manifold bearings make it of necessity matter for the physician only.

The author is more and more convinced that timely and judicious care often turns the scale when it trembles between the return of health and confirmed disease of body or mind.

87, PARK STREET, GROSVENOR SQUARE;

May, 1868.

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IRRITABILITY.

CHAPTER I.

INTRODUCTION.

“’Tis glorious misery to be born a man.”

FROM every stratum of literature, the product of every age and land, in varied forms this sentiment crops out. Men feel themselves to be a contradiction, a paradox. On the one hand, thought, for which nothing is too great and nothing too little, makes us conscious of affinities with something higher than matter; on the other, the necessities and weaknesses of our bodies hold us in a bondage to which no other slavery can compare. While the individual spirit in many a hard conflict is amassing stores of knowledge and growing in influence and power, time plants and fosters in its body the seeds of dissolution. Particle by particle it

dies—the end is sure. The race too, though infant it may be as yet, with the planet it inhabits, is slowly marching (science declares it) to a foredoomed term. On this wider field, and in this wider sense, it has been for ages the lot of the human spirit to fight a hard fight with a fragile weapon; the record of the victories which it has won is fragmentary—they have often been gained over difficulties beyond our conception—utter oblivion has blotted out the memory of some of its hardest struggles. The world's wide battle-field is covered with the remains of millions who have fallen in the contest, their names and merits alike forgotten. They fought, and we possess the spoils. Our knowledge and our power, including our knowledge of our frames and our power to preserve and heal, we owe to those who have preceded us. All human thought and human power have marched to their present position over human bodies. Vile bodies! Every second, one of them is cast worthless away.

Yet surely the human body is a structure worthy to be the temporary abode of mind and soul. Small indeed though its bulk in the realms of space, and fleeting, almost momentary, its duration among the ages of time,

yet in every part of it is contrivance of surpassing skill, the marvel of which increases the more science compels us to recognise the means by which it has been attained as indirect. Viewing it merely as a machine, as a source of mechanical power, nothing has yet been invented in which the work done, the available power evolved, bears so large a proportion to the food, the fuel, supplied. Viewing it as a machine that grows, that manufactures itself, reproduces itself, takes care of itself, it is indeed fearful and wondrous. To no other work of the Creator has equal study been given, and nowhere else have equal marvels been unveiled. Mechanics, hydraulics, pneumatics, optics, acoustics, chemistry, find in it their highest problems; there their forces rule and are ruled, act and react—powers which we know with powers of which we have little more than glimpses, and powers which we know not at all. Is it wonderful that a machine so delicate, so complex, exposed withal to so many vicissitudes, to deleterious matters in the food we eat, in the water we drink, and even in the air we breathe, exposed, too, to heat and frost, to drought, and dust, and damp, to wear and tear and accident, is it wonderful that such a machine should sometimes be out

of order notwithstanding its marvellous powers of self-repair? The highest complexity ever attained by the machinist in clock, automaton, organ, loom, engine, telegraph, or calculating machine, is mere simplicity compared to this. It is not strange that so complex an organization is sometimes out of order; it is strange that we are ever free from disease. If to repair a mere watch or microscope we find it necessary to create distinct branches of intelligent industry, surely to study the mysteries of our bodies, to teach the state, the municipality, the family, and the individual, how to defend them against the thousand hostile forces that assail them, should require a far higher intellectual power, far more careful training, far more unwearied industry and devotion. To these noble objects all civilised states have felt the necessity of devoting some of their highest skill. Slowly, too slowly, there has been accumulated in some thousand years a noble, a priceless heritage of knowledge and experience by the life's labour of many an earnest worker, bold experimenter, profound thinker, and intrepid martyr—for medicine has her martyrs, an army of them, though there be none to canonise. To preserve and to increase this knowledge, to

substitute light and order for obscurity and confusion, whether in general principles or in detail, as far as means, health, opportunities, or abilities will permit, is the aim and constant effort of all her worthy sons. Within the memory of some still living, not only has the knowledge of disease been greatly augmented, but of the aids to cure. The discovery of anæsthetics has realised a dream of ages. The records of death and sickness are now made to stimulate the community in providing the means of health and life. Sanitary science, if the last, is the most useful, I had almost said god-like, development of medicine. The medical profession has its faults, and on these I shall not touch. Still, none but the unreflecting can fail to perceive that the world would be indeed in grievous case if it had to pass but one year without its aid. Founded far too deeply in the necessities of human nature to heed the attacks of a wholesale and vulgar scepticism, yet the doubts and criticisms of enlightened laymen, even though occasionally disagreeable, unjust, or shot far wide of the mark, are a very useful, an indispensable check on the medical as on other professions. For its wide sympathies, for its scientific knowledge,

for the common-sense and trained judgment which it brings to difficult questions of probability—for its zealous devotion to the sick and suffering, to heal and cure while health and recovery are possible, and when they are not to relieve and soothe—for its intelligent foresight in matters social and sanitary, and for its general high standard of honour, we have reason to be proud of our profession. Together with the clerical, of which it is an offshoot, it is the strongest bond of society.

The training of a physician is now the most special of all educations. The student, bringing to his task sound ordinary learning, not too limited, more than average talent, and a resolute will, first lays the foundations of his special knowledge broad and deep in the sciences of anatomy, chemistry, physiology, and some other ancillary pursuits; he then raises the substructure of pathological anatomy by enthusiastic and continued study of the visible mischief done by disease when fatal, and above this the superstructure of clinical or bedside study, together with the therapeutics, the science of treatment, of severe disease. I have outlined merely—there is really much more to do. And when all this is done—and it is far too rarely

done—he is not even then a finished practitioner. Views of disease without pathology are not views at all; a purely pathological view is dangerous, and is very apt to lead to scepticism or to heavy handed and clumsy treatment, playing into the hands of the many varieties of “path;” even a merely clinical view is not enough, it is open, but in a much less degree, to the same objection. The edifice must be crowned by a sympathising study of those earlier and slighter symptoms of which patients are often so loth to speak, of which our books and lectures tell us almost nothing, but which are the outward indications of the internal processes by which the serious cases have been induced, and by which the morbid masses on which the novice has looked with wondering horror have been formed. The neglect of the study of early conditions of disease, the same in great part as the conditions of its increase, is a main cause of the acknowledged backwardness of therapeutics as compared with other branches of medical science. In physical science it has not been so much by the observation of forces acting on a grand as on a small scale that knowledge has been advanced. Finally, it would seem almost necessary that

the physician should himself now and then suffer a little to give him the requisite delicacy of management. Many of our most successful physicians themselves have been at least occasional sufferers.

So much about the doctors; a word now for the patients. Our professional aid is often invoked too late to be as serviceable as it might have been if asked for earlier. Individuals, like communities, think little of health till they have lost it. When serious disease is impending it often casts a shadow—if undefined, yet dark—before it, and sometimes far before; to take note of this warning is wise, to prevent disease while it is yet in embryo is easier by far than to cure it when developed; timely regulation of function will often succeed in obviating alteration of structure. A patient pursuing with difficulty his usual avocations often suffers mentally and bodily really more than in serious illness, when he has given up the strife and submitted to be invalided. So strong sometimes is the contrast that one of our most distinguished novelists, impressed in his own case with the sense of relief from enforced rest, describes in rather glowing terms the luxury of being ill, a luxury, notwithstanding, better

avoided. A patient in this preliminary state of disease, suffering from these premonitions, often says, in answer to the counsels of his friends, "I don't want to take physic, and therefore I will not go to the doctor." Now, sometimes this is merely the expression of a rather ignoble feeling, a want of gustatory courage, but at other times it is more. The connection between the ideas of the doctor and the physic is certainly too close in the public, I had almost said in the professional, mind. The physician is often wanted even when the physic is not; the patient is acted on by many agencies besides those things which he swallows, and of these by varied food and drink as well as by different drugs. We often find that those who fear to consult the doctor from repugnance to pill, drops, or draught, have put themselves on low diet when they required feeding, or have forced themselves to swallow solid food while still loaded with the crude remains of former meals; have taken stimulants when they ought to have left them off, or the contrary; have gone on some hot and toilsome excursion when they needed a cool, quiet, rural retreat, or have gone to the country when they required rest in the house; have used baths when they should not have

done so, or in a manner the opposite of what was required ; or are drinking some mineral water, or taking (yes ! such are the contradictions of human nature) some patent medicine chosen with unlucky hazard ; in short, have made some blunder which, though perfectly evident to the physician, was by no means evident to themselves. Patients of very high intelligence in other matters frequently make such mistakes. The good public should understand that we study and wield other agencies than drugs. If the limited though still extremely important place which these occupy in the treatment of disease were more generally understood, those plausible gentlemen who have chorused so loudly—

“ Great is the dose because it is so small,”

would be met by the reply, to them a logical one—

“ It would be greater were it none at all.”

They have rendered indirectly a service to medical science by keeping in check a tendency to thoughtless dosing, and for this purpose the public has used and still uses them as a practical remedy, at its own peril, and not unfrequently to its own detriment in a very unex-

pected manner. It is not possible to draw a complete and sharp boundary line between food and physic; in the latter guise as well as the former we often supply to the blood material requisite for health. Many substances classed as food resemble so closely, even to chemical identity, others called drugs, that the men who have studied both will have the best knowledge of either. Those who have learned when to use drugs and when little or not at all are the safest guides to the use of other agencies.

A large section of society is very much inclined to the opinion that, as regards the structure and functions of the body, it is wisest not to be wise at all. If the principle be not carried so far as to exclude from education a knowledge of those common things which are essential for the preservation of health, perhaps for those who need never go out of the reach of good medical advice there may be no great objection to the plan so generally followed of devolving knowledge, the acquisition of which is difficult, the misapprehension of which is most dangerous, and the possession of which is to some minds unpleasant, on the medical profession in its different grades and branches.

But the more this is done the more need of occasional advice, in order to the preservation of health, and especially when the first vigour of youth has passed away or when health begins even slightly to fail. It is well that each individual should be conscious of his own special weaknesses, in order to avoid influences to him specially hurtful, for each has his own peculiar dangers. Just as the perfection of outward form in all respects is found in no single specimen of any species, so with the perfection of inward structure. For this, if for no other reason, it would be true that, beginning to live we begin to die—

“Vivendoque simul morimur, rapimurque manendo.”

CHAPTER II.

IRRITABILITY.

“’Tis not, as heads that never ache suppose,
Forg’ry of fancy, and a dream of woes.”

WE now take up the consideration of our immediate subject, which does not bear upon the more serious diseases of our complex frame, but on some symptoms and states, both bodily and mental, found chiefly, perhaps, on the border land between disease and health, such as in our literature and conversation, both popular and medical, are covered by the term irritability, being most of them so designated, provisionally, in the absence of more detailed statement or more accurate knowledge. One word often comprises an immense aggregate of human misery; and though this word irritability refers to evils we are apt to class among the smaller troubles of humanity, it really denotes a great deal of wretchedness, of annoyance and discomfort to self and others. In its different varieties,

whether in the bodily functions of the patient himself, or in his relations with external objects and occurrences through the senses, the brain, and the mind, it is, like friction, a source of vast loss of power in the human machine; no good engineer can overlook it. The author feels that no apology from him is requisite for taking up a subject to which he is not aware that separate treatment has been given by any other.

On the threshold the question meets us—What is irritability? And, first, let me say what it is not. It is not organic and palpable disease of any part of the body whatever. It may, it often does, accompany organic disease, but alone it indicates only disordered function. No doubt, if we use language with exact and ultimate precision, disordered function is always the effect of disordered structure, however slight, inappreciable, transitory, or remediable that change of structure may be; still, the division of disease into functional and structural is a good practical division, and irritability certainly belongs in essence to the more numerous class of slighter ailments, and not to the smaller group of graver ills. We must not on that account consider it trivial either in itself or as

a symptom. There remains, then, the question, most tempting, but most difficult—What is this irritability; what is its nature and essence? If we attempt to define it, we might say it was a “too great sensitiveness to admit of the healthy performance of function;” this is sometimes called a “hyperæsthesia,” but this long and unfamiliar word explains nothing—one is tempted to add, such words never do. In sciences like medicine all definitions are open to some objections, so is the above; they chiefly touch the use of the word sensitiveness, which is used to express something more than conscious sensation. As I am now writing for those who are in the habit of looking at symptoms from without only, and since I wish as far as it may be possible for me to keep to that point of view, an abstruse and difficult pathological discussion of the intimate nature of irritability would be quite out of place, but I may venture to remark that it is impossible to limit the cause of its many varieties to any one organ. The symptoms often travel from one part to another, with a rapidity surprising to the sufferer; like ghosts they vanish, and like ghosts they reappear. *Omnia pervolitat late loca*, was the remark of a learned patient who had long suffered from

this fugitive and flitting irritability. We can, therefore, scarcely wonder if each specialist practitioner should rather incline to place the chief cause in that bodily organ, whatever it may be, which he is accustomed to keep in the foreground of his thoughts; so, perhaps, it is well that we should not all be committed to the preference of any one part of the body. By all means let the medical field be divided for better cultivation, but so that we can see over the fences. It must suffice to say that an explanation, so far as it is possible in the present state of medical science, would require much consideration of the state of the fluids as influenced by digestion in all its stages, and by excretion; but it must be no merely chemical theory. "Why not?" interrupts some chemist. "Gouty irritability is due to uric acid, other kinds to lactic acid, and so forth." This is commonly asserted, and it is considered sufficient proof, if proof be at all attempted, and a doctrine in vogue seldom needs it, to show a proportion of uric or lactic acid from the blood as much as would be swallowed in eating a pig's kidney or drunk on a hot day in a glass of milk. Chemistry alone cannot give the key either to such diseases as gout and rheumatism, or to inflammations

and fevers, though its aid is indispensable to their study. The misdirection of the germinal forces involved in nutrition and reparative growth precedes the chemical error. We have to deal with a fault in vital action, with forces whose nature is unknown; experience is our only guide; we tread with caution while we endeavour, often with great success, to correct errors in digestion, in assimilation, and in excretion, and to remove everything that may divert those processes from a healthy condition. No science is at present in a position to render so much service to medicine as chemistry; but it is no help, it is a great hindrance and confusion to include development, growth, and nutrition, in the domain of chemistry. To say that these are chemistry, just as combustion is chemistry, is entirely to overlook the uniformity of chemical action compared with the multiformity of life, and to cloak our ignorance of the reason of this multiformity. Chemistry has not yet proved herself equal to the creation of the smallest cell, animal or vegetable, the minutest particle of living, germinal, or growing matter. Verbal annexations of this sort do not enlarge the boundaries of a science any more than we should enlarge our island by pro-

claiming the annexation of lands still in the dark deeps of the Atlantic. But to resume—though the chemistry of the food, of the blood, and of the secretions of the alimentary canal, and the excretions, must be borne well in mind, the state of the blood as regards the particles which swim in its stream must not be overlooked, both those to which it owes its colour, and those more specially living and growing masses—the white blood-cells—whose function in nutrition is of such extreme importance, and which is now by very many overlooked in treating that subject. This is like writing the history of England, forgetting the prime ministers. It may be new to some readers to discover that the ceaseless tides of the ocean within them are full of living fish; busy fish they are, and useful; they absorb nutrient fluid, they grow and multiply. Both medicine and food quickly alter the chemical composition of the flood in which they swim, to some extent their own composition too, and, finally, that of the textures to whose maintenance and repair they are devoted, with much more besides. In conclusion, we must not forget the nervous system, since this has always the power of controlling in various ways the nutrition of the

body, as well as being more directly concerned when its own nutrition is affected. Implicated, perhaps, either in its central or in its outlying portions, more or less in every manifestation of irritability, in all its varieties, in mental irritability its part is the leading one. Probably I have already said enough on a subject which to myself presents only too many attractions to make the reader deprecate a fuller discussion.

Assuming this, I pass on briefly to consider, I should rather say to catalogue, a list of phenomena, forms, and associates of irritability, which are frequently in practice substituted one for the other with such rapidity as conclusively to prove that they depend on one cause, but that cause need not be the same in different cases. Thus, the skin is irritable; the face, lips, neck, arms, wrists, or hands, chafe more readily in the wind; the scalp is sore to the touch of the comb. The body has tender patches; without anything visible, it is over-sensitive; the patient, generally a lady, can scarcely bear the pressure of the clothes; sometimes, in addition, there are slight eruptions here or there, rashes, spots, pimples, or little boils; or the mucous membranes, whose surface is so much more extensive than our external covering, suffer; the

eyes water readily, the edge of the lids is sometimes irritable, now and then discharging a little; the patient has frequent colds in the head, sneezing, or running, or dry stuffing; the tongue, slightly swelling, takes the impression of the teeth; the inside of the cheek swells, and is sometimes bitten; the palate and uvula are relaxed occasionally, giving rise to a disagreeable hawking; or there is a little sore throat, with slight changes in the *timbre* of the voice, perhaps a little teasing cough or expectoration. Any other mucous membrane may afford a similar group of symptoms; if it be the stomach there is varying thirst and loss, or fitfulness of appetite, occasional nausea, eructations, sickness, slight waterbrash, heartburn, sense of oppression at the præcordia, acidity, flatulence, or gastric spasm, indirectly furred tongue, and altered sense of taste. Or the bowels are irritable, rumbling, slightly pained, not unfrequently, at an interval more or less constant after taking food; either they are constipated or a little inclined to diarrhœa. Not rarely there is a slight tendency to piles, or other such troubles; the secretion of different glands, salivary, renal, hepatic, is very unequal, now excessive, now defective. Or the nerves are irritable; if there

be not, as is frequently the case, neuralgic pains, there is general malaise. More rarely the body or parts of it feel larger or smaller (as in John Hunter's case), or heavier or lighter; the patient is too sensitive of weather, of fatigue, or excitement, and is apt to lose his sleep. Accompanying some of these symptoms, alternating and interchanging with them, and variously grouped in different numbers and combinations, are other symptoms; the head aches, or has sensations of fulness, throbbing, darts of pain, local or general; there is confusion of thought, slight giddiness, the eyelids often a little puffy or stained, disorder of vision, spots are seen, dark or bright, or the eyes cannot be long directed with precision to small objects; in reading, the letters soon become confused, even disappear in a haze. Or we find affections of hearing; the tinnitus aurium, the shrill small ringing in the ears—this is sometimes very troublesome—or the low hum of partial faintness almost at the opposite end of the scale of audible notes. These and other internal sounds go sometimes to the extent of overpowering the external, producing apparent deafness; in other cases the hearing apparatus is intensely sensitive, so that a sudden and unex-

pected noise of no great loudness will cause even momentary faintness. Or we have cramps, as of the hand on attempting to write, or of the inner side of the foot and in the calves of the legs, especially at night; flying pains, perverted smell, or perverted sensations of the skin—slight numbness, tingling, or creeping, prolonged chilliness, cold hands and feet, or sudden hot flushes and momentary perspirations; now and then a joint will work less freely, especially when first set in motion, or some part of a limb feels weak, inclined to give way, the hand almost refuses to write. Sometimes there is a feeling of oppression, distension, internal movement, lassitude, momentary breathlessness, inability to think or speak on the instant, palpitation, variable or intermittent pulse, inability to lie on one side, generally the left, despondency with little cause, irresolution, timidity, irascibility or mental irritability. Restlessness is a notable symptom in many cases, the impossibility of sitting still, dislike of friendly visits or places of public assembly. In some, uncontrollable thought, beginning to lose the distinction between the actual and the imaginary, brings the patient to the verge of insanity; cognate to these are

cases with powerful subjective sensations, visions, voices, noises really heard and seen, but whose causes are in the patient's brain, and whose want of distinctness is unconsciously eked out by his imagination, as when a child fancies that bells are speaking. Few observant people will find themselves at all times entirely free from such subjective phenomena; sometimes they continue, even in their most remarkable form, in those who are otherwise in perfect bodily and mental health, as in the well-known case of Nicolai. These subjective sensations are the grain of truth in many a strange and supernatural tale.

The appearance of patients in whom these phenomena are rife is seldom that of perfect health; they are often weak, at least when tried in certain ways, and the complexion is either sallow or pale, with a tendency to mealy desquamation, or flushed, or an alternation of these; sometimes curiously mottled, but seldom to be called healthy, both in colour and colouring, that is, in the arrangement of colour. The plan of my work does not allow me to extend this list of troubles, perhaps the reader has already gasped at its length; practitioners of different branches of medicine would not at all

agree as to the causation of them. All liver ! all stomach ! all kidney ! all gout ! all nervous ! would be a few of the exclamations we should hear ; but really this is overrating the simplicity of the matter. We will not discuss it here, but it must suffice to remark that of all the local claims that would be put forward as the exclusive seat of the cause of irritability, doubtless that of the nervous system would be as strong as any ; from the earliest period till the final loosing of the silver cord it has a large share in its manifestation ; it often localizes it, that is, it determines its position ; thus, it is no uncommon thing to meet with very marked irritability in parts, notably in portions of skin, to which one branch of nerve is distributed. In some cases the spinal cord and brain are the seat of very slight but very important changes ; we cannot, however, admit their claim to be the only or even the principal seat of the causes of irritability. They are not generally liable to organic disease in such cases, nor is irritability a very frequent symptom when they are diseased ; it may, indeed, be present, but it is often more conspicuously absent. Much oftener it is the accompaniment of disease of the heart, or even of its functional weakness, of disease of

the great arteries, of congestion of the liver, and also of dyspepsia and gout, with many other maladies less popularly known. Parts of our bodies, too, supplied with very few and small nerves, such as the interior of our joints, and the cornea, the clear watchglass-like covering of the eye, exhibit in disease remarkable irritability; so, too, does the new tissue on the surface of a healing sore before branches of nerves have been formed in it.

Plants which have no nerves at all, besides being more or less sensitive to sun and shade, to heat and cold, to damp air and dry, which may be more or less susceptible of explanation, have something like irritability. They go through many strange movements, which we see as though we saw not from our familiarity with them. There are very few species from which examples might not be taken at some stage of their growth; I choose two or three only of the most remarkable. Night and day the telegraph plant, *Desmodium gyrans*, awkwardly waves its leaflets as if they were semaphores signalling to each other. Then there is the touchy little *Dionæa muscipula*, whose folding leaf shuts as in a cage the luckless insect which brushes the hairs upon it, and keeps it a

prisoner till its struggles cease; it is still doubtful if the plant derive any benefit from its captive. The medical reader may, if he can, determine how far these vegetable irritabilities are akin to the physiological and the morbid. Viewed in some aspects, the relation is close; in the attempt to define its manner and degree he will raise many interesting and difficult questions. Lastly, there are the *Mimosa pudica* and *sensitiva*, the sensitive plants, the very types and emblems of irritability; offended by the touch of the passer-by, for a long time they sulkily refuse to expand their beautiful leaves to the sunshine, and thus suspend all their vegetable chemistry.

“ For many a grave and learned clerk,
And many a gay unlettered spark,
With curious touch examines me,
If I can feel as well as he;
And when I bend, retire, and shrink,
Says—Well, ’tis more than one would think.”

CHAPTER III.

PHYSIOLOGICAL IRRITABILITY.

“Wollt ihr in meinen Kasten sehen
Des Lebens Spiel?”

A PHYSIOLOGIST does not use the term irritability in its popular sense; when he uses the word he means the power of being excited to contraction as resident in muscle or similar textures. This power may be brought into action either by stimuli, mechanical, chemical, or electrical, directly applied to the muscular fibre; or, as in the living body more commonly and naturally happens, by the action of its ordinary and appropriate stimulus—the nervous force. This force has many analogies with electricity, but its rate of transmission along the nervous cords is far slower than that of any form of electricity with which we are acquainted. It appears, however, under the light of modern science to be correlated with the better-known forces of physics and chemistry, and in certain circumstances to be convertible with them.

The telegraph shows us how one force with even a single communicating wire, as in those marvellous achievements of scientific faith, the Atlantic cables, may, by proper arrangements at the terminations, be made to convey the most diverse signals; that in the human body the kind of sensation depends on terminal adjustments and not on difference of nerve, we know by such facts as this—a touch or blow which disturbs the retina, the outspread nerve of the eye, produces in it the sensation of light, not feeling. Though in the nervous system the active force cannot be exactly ordinary electricity, yet the analogies of the nerves and their centres with telegraphic apparatus, batteries, commutators, and other instruments, are far closer than with any other human contrivances. Mechanical, chemical, and electrical stimuli can bring nerve force into action; so do light and heat, themselves now generally acknowledged to be forms of molecular motion. Nerve force in return can, through the muscles, excite motion; through the voltaic apparatus of fishes, can produce electricity; thus, the electric eel, gymnotus, and the flat electric fishes, the torpedo and the ray, have immense nerves supplied to their electric organ, and by

means of that contrivance they can at will produce electricity till they are exhausted. The glow-worm, the lantern flies, and many marine creatures, have the same power as regards light.

I have purposely omitted here all reference to the inherent power, *vis insita*, of these mechanical, electric, and luminous contrivances, because, however important it may be, it is still brought into action by the nerve force. Our knowledge of the exact mode in which the power, the electricity, or the light, is generated is not yet so full as to preclude direct conversion of force. If the power of chemical affinity, chemical force, intervene, as seems probable, it must still be admitted that this is entirely under the government of nerve force. But whatever the exact relations of this force to other forces in nature, and whether it be a vibration, undulation, or any other more complicated molecular change in the core of the nerve-fibril, there is no doubt that it is the ordinary and natural stimulus, the exciting cause of the contraction of all kinds of muscular fibre. For this purpose it may either proceed from the brain, originated or set free by the will, as in voluntary muscular action, or, independently of the brain, it may be reflected from

some stimulus applied accidentally or intentionally to afferent nerves. Phenomena of this latter class, now pretty generally known by the name of reflex actions, are well seen in the voluntary muscles when the influence of the brain is withdrawn, as by sleep, for example. The slumbering child retracts the tickled foot. Disease, or injury, at some point in the spinal cord may cut off the influence of the brain; in such paralytics the foot is unconsciously withdrawn from irritation, sometimes so vigorously as to give the first intimation to the patient that his limb has moved by the shaking of his couch. Similar facts are seen in decapitated animals or wounded men. In these cases the nervous wave must be largely reinforced in the ganglia or ganglionic cells from which it is reflected. Movements which have been practised much, in proportion to our familiarity with them, are gradually withdrawn from our consciousness; the movements of walking, of the eyes in reading, of the hand in writing, will serve to suggest many others. We perform these and similar movements entirely without conscious memory; the unconsciousness of the somnambulist is only one degree greater. Some muscular functions, of which those of respiration and

swallowing may be taken as examples, are partly voluntary and partly reflex ; there is given to us a limited amount of control over them. There is a third class—the emotional movements—which can be, to some extent, restrained, but not directly originated by the will. The habit of controlling them increases the power. This principle, with a variety of others, physical and mental, is in several ways brought into use by the ingenious physician in the treatment of cases of stammering and stuttering without malformation, and in the management of various other ungraceful and unnatural movements and bad habits. Tone, manner, and expression in speaking have been not badly defined as the commentary of the emotions on the propositions of the intellect. To be able to suppress external signs of emotion at will is a certain advantage ; to be able to simulate them at will, and that without caricature or exaggeration, is the triumph of the actor. Lastly, the movements of internal organs, such as the pulsations of the heart, the vermicular, the creeping-worm-like, movement of the intestines, and many others of which, in health at least, we are quite unconscious, are entirely and, no doubt, beneficially withdrawn from our control.

There is a morbid irritability of muscle in the physiological sense, and from what has just been said it will be seen that we call it so without necessarily or at all supposing that its cause is situate in the affected muscles. In weak and irritable patients it may often be detected by the readiness with which the ordinary muscles of the body will contract on a slight blow from the tip of the finger; sometimes no external stimulus is necessary. Nothing, perhaps, is more remarkable in nature than the manner in which the same force can be traced in the most trifling as well as the most tremendous effects. I will digress for a moment to illustrate my subject by a curious instance of this, which, from the surrounding circumstances, strongly impressed my mind. No one who has witnessed a thunderstorm in the Alps will ever forget it. Such a storm surprised me while strolling through the gloomy defile of Schellinen, rendered historic by the combat of French and Austrians at the Devil's Bridge in August, 1799, when the arch was blown into the air covered by the struggling combatants, precipitating hundreds into the troubled torrent of the Reuss, just below the fall. I took refuge in the covered

galleries near the long tunnel, known as the Urnerloch, and watched the light masses of electrified cloud moving over the narrow defile, and presenting an extraordinary resemblance to the lively pith balls which we have all watched with boyish glee when dancing under the influence of the same force domesticated in our philosophic toys. The nerve force, too, is liable to be discharged in storms of terrific violence—no one who has once seen a strong man in a violent epileptic paroxysm will doubt that. It seems at first almost whimsical to compare with this the slighter manifestations of the same phenomenon. Other examples will be found below; some of the more serious occur as sequels of fever; just now I take a familiar specimen from the facial muscles, the muscles of expression. The effect produced is merely a sudden involuntary movement of the features, not unfrequently recurring for a time at regular intervals, to the annoyance of the patient, who has no power of preventing it. The unthinking may suppose that these extreme cases have nothing in common, but they are both leakages of the nerve force; in neither case is there any disease of the muscles; in both there is some change in the nutrition of the nervous system

difficult fully to explain, and probably in itself so minute as for ever to elude discovery; in both the general health may be much, but it may also be little, affected, and whoever can fully unfold the cause of either will give the solution of both. In the present state of medical science nothing is more needful than the grouping together of kindred phenomena whose causes are one, but the fashion does not run in that direction. The physiological irritability of another set of contractile fibres of the skin, the so-called organic muscular fibres, gives rise to other phenomena. Cold readily causes them to contract; they project the roots of the hairs so as to cause the appearance popularly known as goose skin, *cutis anserina*. In frost we see animals with their hair or feathers uniformly raised to keep them warm; in illness, irregularly, the "coat stares." When fear or horror produces in us a similar condition we express it by the phrase the "flesh creeps;" in the extreme of terror this is accompanied by a very distinct erection of the hair; this is ancient knowledge, "A spirit passed before my face, the hair of my flesh stood up." A condition slighter in degree, but not very dissimilar, accompanies pleasurable emotion. Brought into

morbid action, these fibres share in producing some of the sensations of disease, feelings to be felt in order to be comprehended.

The minute muscles of the inner ear, those which tighten and relax the membrane of the drum, performing a function in some respects analogous to that of the iris for the eye, are liable to be thrown into sudden and irregular contraction. When they are the patient hears a sound unexpected and unexplained, a boom or thud, seeming near or distant, sharp or dull, according to the suddenness and strength of the contraction.

A similar morbid irritability of the muscular fibres which regulate the caliber of the wind-pipe contributes the spasmodic element to the asthmatic paroxysm; there is usually some bronchitis, a less transient condition, as well as changes in the air-cells of the lung, a permanent condition. The contractile irritability of the midriff or diaphragm, the muscular partition which separates the chest from the abdomen, brought into sudden action by a discharge of nerve force, however produced, down its nerve, the phrenic, is the immediate, the efficient cause of hiccough. And this may be brought about by gastric irritation or by various other causes.

A little fright or sudden surprise will stop it, it breaks the communication ; the gastric irritation may remain, but the shocks of morbid nerve force are no longer sent down. We have some power of preventing hiccough, like the control we possess over the emotional movements, but the less this is used the more it is difficult. On the other hand, when we practise complicated voluntary movements, they become by degrees easier, and we are less conscious of them. It has been well pointed out that in both cases there must be structural change, adaptive growth, of the nerve-centres, resembling, we might say, in some respects those that would be made in a telegraph office if some function, say dropping a time ball, had to be performed daily ; arrangements would be made in great part independent of the telegraph officials, perhaps entirely so. Habit must be regarded as inducing minute structural internal changes, just as habit of facial expression grooves and moulds the countenance. These novel or neglected considerations bear closely on the treatment of some of the most anomalous and intractable of maladies.

The irritability of other internal muscles causes the "stitch" of the running boy, the

sensation of the ball in the throat, the so-called "globus hystericus," of the excitable girl. Many a strange feeling of constriction felt internally, more or less indescribable, is to be accounted for in the same way. When the stomach, which is largely supplied with nervous connections, is thus affected, the gastric spasm is generally indicated by a severe lancinating pain through the waist. When such irregular and involuntary contractions affect the voluntary muscles we have cramp and spasms of different kinds; sometimes the knotted muscles make a fair show of resemblance to a tumour. These phantom swellings disappear as unexpectedly as they came. The strange contortions of chorea, St. Vitus's dance, the trembling of the feeble sufferer from paralysis agitans, convulsive and shivering agitation, and many other phenomena of the like kind associated with severer forms of disease, which do not come within the scope of this work, acknowledge similar causation. Of all these, to estimate the importance, to trace out the causes, and to suggest the remedies, is the task of the physician, the man who considers nothing to be foreign to his province which concerns the health of his patient.

To conclude, our nervous system is truly matter, and its diseases material diseases ; we must investigate freely its structure and functions, and learn to recognise more than we have done the forces which act within it, and their relation to other forces : this is our solemn duty to suffering humanity, to whose service, as a profession, we are plighted. But let no timid reader suppose that our doing so will lead us to materialism : we are in no danger of knowing too much. It is only the narrowest sciolist who does not know that in every kind of knowledge, on every side of us, darkness impenetrable surrounds the widest sphere that the human intellect can illumine. The explained is very finite, the inexplicable is infinite.

CHAPTER IV.

VARIETIES OF IRRITABILITY.

“*Variæ illudent species.*”

THE longer I have practised, and the more cases I have closely observed and studied, the more I have become convinced that most attacks of serious disease are preceded by a period during which the state of the blood is altered, often chemically, but oftener in those growing or germinal particles, the white blood-cells, which have the power of repairing internal wear and tear and slight injuries in much the same manner as they are seen to repair an ordinary cut or abrasion. I believe I might say these are nearly always altered; for were there not an error in their function, a mere chemical deviation would soon be corrected, unless in the absence of proper food, that is, of the necessary chemical elements; and the importance even of this condition may be readily

overrated, for it is a singular, and to some a very unexpected, result, that the constitution of man in health is not everywhere quite identical in chemical elements; a little closer preparatory study of lower forms of life, and knowledge of the fact that some forms are found even in poisonous solutions, would have made it a matter of expectation rather than surprise. Even in crystallization one element is often substituted for another without affecting resulting form, and the forces involved in growth do not appear to be more closely dependent on chemical constitution. But to return—in many of those kinds of illness which seem to be striking exceptions, which appear to occur without warning, it is not difficult to prove statistically or otherwise that the apparent exciting cause was but one in a chain of causes, one or more of which being removed, it would have had no effect.

Just as in the body politic an evil once developed becomes the parent of other evils, so in the natural body one fault induces others; for instance, a fault in the blood disturbs the nervous, the circulatory, the digestive, the excretory, and other systems. In both cases the old maxim holds, *Venienti morbo occur-*

rendum est. The prescient statesman, the prudent physician, endeavours by timely measures to avert the coming ill. Nearly always there are some of those warnings of which we have spoken in the second chapter, and it is at this time that the enemy can be best expelled, before he has effected a solid lodgment and thrown up his fortifications. If the patient still continue in that course of action which has developed the disease thus far, it will soon take up a position wherever he is weakest, either by original conformation or otherwise, and often in the same organ whose maladies have proved the death of a parent or relative, and occasionally under circumstances of most exact parallelism. In other cases the morbid agencies plant themselves in some organ which has been weakened either by mechanical injury, by overwork, or by climatic or other morbid influences, either in the patient's occupation, habits, or surrounding circumstances, and what was at first mere irritability, a disturbance of function, in time leads to altered structure, because that material to which the organ owes its original formation, its growth, and the daily repair of its slight injuries, is involved, nay, is chiefly concerned, in the morbid action.

But we limit ourselves, as our subject requires, to the slighter preceding stage, and there are some very remarkable though exceptional instances of the long continuance of this without altered structure. Premising that of the varieties which we are about to point out, it will rarely be found that a patient whose health is under close observation for a length of time exhibits only one, we adopt as a convenient division of the different forms of irritability the following :

1. Cases affecting the external covering, the skin.

2. Cases affecting the internal lining, the mucous membrane.

3. Cases affecting the closed cavities, the serous and synovial membranes.

4. Cases affecting the tissues of organs.

We shall find this classification convenient in arranging our thoughts ; but just as nature seems to take a pleasure in confounding the framer of systems by the immense variety of her productions, so it is also in morbid phenomena, while classifications are necessary on account of the defects of our own minds, we must always be prepared for cases which will not be classified, cases whose parochial settlement,

domicile, or allegiance, would give much trouble to a court medical.

1. *The skin*.—It is a great thing to have morbid action before our eyes, fully exposed to view, and when we have it it is very culpable not to observe it closely and to reason from what we see to what we do not see, for there is far more unity in disease than is commonly admitted. This method of study, however, is not at present in favour; if it were, much that has been written on the diseases of organs more removed from view would not have been written; many a discussion as to the meaning of the words irritable or morbidly sensitive, irritation, and such like, as well as their very vague and confusing use, or the entire condemnation of their use, might have been avoided. We find, then, that a patch of skin may become exceedingly sensitive, so that the slightest touch is disagreeable, even painful, nay, sometimes the patients recoil from anything before it approaches, and this where there is no suspicion whatever of their courage to bear real pain, or of their veracity. All this time the skin is cool, perhaps cooler than usual, inclines rather to be pale than flushed and yet is far more sensitive than many portions of in-

flamed skin. Firm pressure is generally less painful than the light finger touch which glides over the cuticle and throws into vibration the extremities of the sentient nerves. There is, then, such a thing as morbid sensibility, irritability, quite apart from any, even the slightest, of the phenomena of inflammation.

Again, in different patients and even in the same patient at different times, we see portions of skin equally inflamed, equally hot and red, in which the sensitiveness is very unequal; one patient fears a touch, another has a positive inclination to scratch and rub the inflamed part. So that we see that this condition mixes and mingles in very different proportions with the phenomena of inflammation. We have often been told that the pain of inflammation depends on the increased flow of blood around the nerve-fibrils; this is clearly an error. We see also on the skin inflammation either quite transient or more or less durable, situate equally in all the textures of the skin or limited to some, causing or not the detachment of the cuticle, inclined to spread or to remain in one spot, tending or not to alter structure quite independent of its duration, and differing in specific qualities in other ways which I must not here enumerate; some-

times it is almost purely a local matter, at other times it is connected with disorder of the general health which is the root of the evil. We see it associated with irritability in every possible degree and manner.

We now come to cases affecting—

2. *The mucous membranes.*—These are beyond all comparison more extensive than the cutaneous surface. If the sum of them all, with the branching of the air-tubes and the endless labyrinth of gland-ducts, could be spread out before us, we should stand aghast at their immense superficies. The study of their properties and the action of different substances upon them forms a large portion of medical knowledge. Food, till digested and absorbed, as well as its residuum, comes in contact with these alone; from these are poured all our secretions, and through these are imbibed all our nutriment. They are exposed in the most various ways to the irritation of solid, liquid, and gaseous matters, and to them most of our remedies are directly applied. The reader will readily appreciate and acquiesce in the necessity of passing lightly over so extensive a subject. The principles which we have illustrated from everyday ocular evidence under

the previous head must be here applied, and no little judgment is required to apply them correctly. We must not forget, too, that the mucous membranes are not supplied largely with nerves of feeling like the skin; they cause discomfort or pain when irritable or irritated, but it is often through the nerves of other parts of the body; they cause what we call reflex or reflected pain. We shall lightly touch on one or two examples of their ailments. A form well known is what is called the clergyman's throat, which is liable to affect the singer, actor, public speaker, or any one who is obliged to make frequent and prolonged efforts of the voice; there is an irritable condition of the mucous membrane of the throat, occasionally going to the extent of slight inflammation, but more usually merely a condition of relaxation, not only of the contractile fibres contained in the mucous membrane but also of the muscles of the palate and larynx, the organ of voice. But it is no mere local affection, as it has sometimes been considered; closer inquiry into the previous health of the patient almost invariably shows it to be but one evidence of a condition of general irritability and weakness, the throat having suffered earliest and most as being the part

subjected to the greatest strain. It can only be safely treated on principles which regard the general condition as more, rather than less, important than the local.

Common nasal catarrh is another instance which has the advantage of being visible ; sometimes it is a matter almost purely local, excited by dust or irritant matter ; sometimes there are also general symptoms. The skin about the nostrils is chafed, it tends to travel to the chest or elsewhere, and the patient is feverish ; sometimes the mucous membrane is much swollen, sometimes little ; it is either accompanied with much irritation, or with little or even none ; it recurs frequently or very rarely, its secretion may be irritant or bland ; its duration may be brief or prolonged, and when prolonged the structure more or less altered. The laryngeal mirror, or, as it is now rather sonorously called, the laryngoscope, which is merely a little contrivance for seeing round a dark corner, brings to view a similar series of facts deeper in the throat. No troublesome affection of the voice should ever be treated without it. From these facts, which can be readily seen, we can reason to what takes place in mucous membranes which cannot ordinarily be observed, as in the stomach

or bowels. Even in the stomach these phenomena have been seen, as in the case of the Canadian voyageur, Alexis St. Martin, whose hardy constitution recovered from the usually fatal injury, a wound laying open the stomach, but so as to leave in the side an opening into that organ allowing the whole process of digestion and its variations to be observed. The indigestions or dyspepsias have been so fully treated that I propose to pass them very lightly by—they afford many examples of irritability as distinct from inflammation. They have been classified in different ways according to causes, duration, inflammation, secretion, and so forth, and these classifications are very useful if not regarded too rigidly. The same classifications are applicable to the diseases of all the other mucous membranes of the body. Some of these are occasionally subjected to less reasonable treatment.

We pass on very briefly to notice the third and fourth heads.

3. The closed cavities of the body, such as those of the chest and abdomen, and the joints, are liable to a state of pain and irritation without any, or any but the slightest, inflammatory action, though passing into it in different cases

by slow gradations. The so-called pleurodynia, the sharp pain of the side in which stethoscopic signs of inflammation are entirely absent, and many pains of the joints which disappear on motion, such as the "growing pains" of children, are examples.

4. The different solid organs of our body suffer an irritability preceding inflammation or in various degrees accompanying inflammation, but also entirely without inflammation. It may affect the liver; when it does so it causes some of the symptoms generally described under the name of congestion, but in reality this state may either accompany it or not. Its effects may be traced in the kidney, the salivary, the lachrymal, the mammary, and other glands, in temporary tenderness, generally with sudden changes in the amount and quality of their secretion. When the spinal cord is the subject of its influence the result is very observable in the sudden starts which occur on going to sleep when that organ has been overtaxed by exertion, as in running, rowing, or walking at speed. Greyhounds after coursing start in their sleep in like manner. There are some patients who are at all times liable to shocks during sleep, even when they have taken no

laborious exercise; the shock may wake them or they may sleep on. Cases similar to these have been more fully treated in the third chapter. Sea-sickness produces a cognate condition of another nervous tract, that by which our bodies are balanced; the solid land appears to roll like the unsteady deck. Large portions of the brain are liable to be thus affected, perhaps never its entire mass; the resulting symptoms vary with the part affected. These are a very important class of cases; this morbid state of brain disables men of great capacity for business, science, literature, or professional work. The hurry and urgency under which much of our work is done, the anxiety inseparable from a highly artificial condition of society, life in cities whose roar is ceaseless as that of the sea, and where the most amiable of men get the smallest amount of repose, toil in business too severe or unremitting, even the ardent endeavour to benefit society in different ways, the most diverse pursuits followed with excess of zeal, bring men to the same condition. A total absence of occupation is often seen to be nearly as injurious. Without organic disease, or any very strong predisposition to it, the minute circulation of the brain is disturbed and

its nutrition slightly altered; business becomes a trouble, society ceases to please, momentary confusion comes at times over the patient; there is a little loss of memory, generally for trifles, rather resolving itself into a preoccupied state of mind, which allows small occurrences to go by with none or inadequate attention. With these are found many of the symptoms mentioned in the second chapter and some of those referred to in chapters subsequent to this. Physical courage may be diminished, the patient is timid in the crowded street, or is afraid of even moderate heights; or his moral courage fails, he has unreasonable fears of disaster, indifferent noises become intolerable, bright light is a glare, there is an ever-present sensation of pressure or panic. If the patient have to travel daily by rail the vibration and noise, the mental tension produced by the fear of missing the train, are severely felt. Above all, the restorative power of sleep is impaired—it is brief, interrupted, or unrefreshing. Sometimes there is an almost Roman over-sensitiveness to words and names, with perverse ingenuity in educing some evil omen or gloomy train of thought; there is inability to bear the small annoyances, the mosquitoes of social life. On

lying down to rest the occurrences of the day, especially those accompanied with any circumstances of annoyance, re-enact themselves with vivid semblance of reality. When the attempt is made to obtain for the brain that rest which alone can restore it, the active mind abhors the vacuum, and the patient at first seems worse. But rest is absolutely necessary for the exhausted organ. At first old lines of forgotten care and anxious thought reappear, just as in time of drouth the levelled sward will show the outlines of a forgotten building. In the seventh chapter I have pointed out some of the means which friendly and affectionate care will find to be beneficial in proportion to their judicious and persevering use. Consulting their physician, they are sometimes condemned as subjects of softening, or what not, of the brain, or are pronounced too off-hand free from disease, and told to "shake it off." I have known both to occur to the same patient. The gloomy view is not unfrequently negatived by recovery; the other is cruel to a patient, who, if he can be induced to confess freely, will often admit that mental agony has driven him to the verge of suicide. He abhors the thought, and struggles to dismiss it. To aid any who are thus fighting

with demons, let me conclude this chapter with two well-known lines written by one who suffered severely thus, and conquered :

“Beware of desperate steps. The darkest day,
Live till to-morrow, will have passed away.”

Or with the same idea in words of a kindred language :

“Dulde, gedulde dich fein !
Ueber ein Stündelein
Ist deine Kammer voll Sonne.”

CHAPTER V.

ALLIANCES OF IRRITABILITY.

“*Ludibria seriis.*”

SOME wicked wag, “*Es muss auch solche Käuze geben,*” has compressed his metaphysics into this little catechism:—“What is mind? No matter. What is matter? Never mind.” Our knowledge is really less in advance of this too simple system than might at first sight appear. In times past strange feats of logic and great powers of dogmatism have been displayed in the attempt to divide the mental from the physical; the moral philosopher, the metaphysician, has traced the frontier lines of his science, so as to include phenomena beyond doubt purely physical; and the philosopher, concerning himself with the material only, has denied altogether the separate existence of mind, and has been repaid by the assertion that

unless through mind there is no trustworthy proof of the existence of matter. We will not entangle ourselves in such disputes—they cannot be settled. No satisfactory definition adequate for the purpose of the discussion can be given of either mind or matter, and therefore the disputants can but syllogise with ambiguous terms. We will not do so. Using the old language—and it is destined to endure—we will speak of human nature as, at least, twofold—material and immaterial—confessing and asserting that no mortal can trace the border line between the two, either in the phenomena of health or disease. The manifestations of morbid irritability of body are inseparably associated with morbid irritability of mind.

Irritability of temper is, therefore, one of the alliances of physical irritability, and a very close one. Of one or the other a certain amount is so far a feature of our common humanity that we find in the classification of temperaments, which was made so prominent in ancient medical systems, there is always one called the choleric or irritable, from the predominance of this quality. Irritability of temper as often originates in diseased con-

ditions as in bad moral training; and though it may be kept up by habit, it causes a proclivity to disease, and it is, in fact, very often accompanied by some physical infirmity or weakness. The physical disorder tends to aggravate the mental, and the mental the physical.

There are two forms—the acute and the chronic. The former, irascibility, the liability to explosions of anger, is probably the less vexatious of the two; in those who are otherwise estimable the paroxysm is soon over, and the sufferer seems anxious to make amends for his infirmity. In a certain sense it is true that faults of temper are faults of intellect; this is nearly the same as saying that anger is a transitory madness, and that during the paroxysm the understanding is clouded and the judgment at fault. To suppress for the moment the manifestation of anger is of itself a gain, and gives time for the clear judgment to revive. There is, however, an anger which is proper and useful, the necessary check on that which is mean and vile; but this does not convey to the mind of the spectator the idea of weakness, nor is it accompanied by the loss of self-control. The prolonged or chronic form, to which the

term irritability more properly belongs, is the more distressing, and is very apt to render the sufferer and all about him utterly wretched. The irritable move through the world with more friction than their fellows, and suffer more wear and tear; when two such meet in critical circumstances they are like the similar metals which the machinist avoids placing together at points liable to much friction, and without the lubricating influence of the good temper of third parties can scarcely be made to go on at all. It is always possible to take an unfavorable view of character, disposition, or conduct, and accordingly it is frequently remarked that self occupies too large a space in such a mind; sometimes it may be so, but the most unfavorable view of human conduct is often not the truest, and in numbers of cases it is certainly so in this matter. The irritable temperament is not unfrequently combined with wide sympathies, with intellectual ability, with skill in arts, science, or literature, and it is not at all surprising that the more delicate the organization the more it is liable to derangement. It is, indeed, a pity when minds internally so attractive are externally so uninviting; they remind one of the geode, the Bristol

potato-stone, rough and clayey without, but full of beautiful crystals within. The causes of such infirmities of temper are various—some are mental, some are physical; to the latter we shall return presently, they are often both in action in the same case. Of the former none is more frequent than some concealed annoyance, the house's skeleton, the heart's bitterness, some self-reproach for past error or negligence; and the possibility, nay, the probability, of the existence of such cause should induce friends worthy of the name to deal, when possible, tenderly with this infirmity. The patient, also, cannot be too watchful lest he involve himself in wretched interchange of wrongs with those who might have been his friends.

Closely related to the subject of temper is that of antipathies. The history of the antipathies, even of distinguished men, would be a curious chapter of psychology. Just as anger is cherished by allowing the mind to dwell on every circumstance of annoyance, so antipathies are kept up by displeased attention to the object of them. It is well worth while, with a view to comfort, to have as few antipathies as possible; when the antipathy is rooted it is not

easy, but it is worth any effort to turn away the thoughts from the source of annoyance; when that is done the battle is half gained. If it be not done, the strength and the unreasoning nature of the antipathy is apt to increase with its age. Such antipathies do not belong to the higher part of man's nature; animals evidently have them. There is almost nothing that can present itself to any of the five senses that cannot be made an object of antipathy, and by education, if in no other way, such antipathies become hereditary. In youth it is well to lead the mind to observe calmly objects of dislike, as a trainer makes a timid horse familiarise himself with what he fears. Above all, it is desirable not to have antipathies for objects we may meet with frequently and often cannot escape from, as, for instance, an unsteady gas flame, an absurd pronunciation, a perfume, a colour, or noises produced by certain handicrafts, and especially for objects which are sources of pleasure to others, as organ-grinders, bagpipers, and such like. The best remedy for the annoyance caused by the latter is to fix the thoughts on the pleasure which they give to others. A crowd of delighted children may be an object of interest,

though the means by which they are pleased grate harshly on the ear.

Irritability has an alliance with pain. There is a sensation or feeling of irritability, of *malaise*, of discomfort which is the opposite of the sensation of contented comfort. The one is akin to pain, the other to pleasure. In their widest sense the latter are no less than the propelling and the restraining force, the whip and reins of human society, and in their different forms both are a great puzzle to the physiologist. If it be impossible to say why on the same nerves one nervous impression in health gives pain, and another difficult to distinguish from it gives pleasure, it is not less so in disease. The same friendly touch which in health and good temper pleases, under that sense of morbid irritability of which I speak gives manifest displeasure or annoyance. No doubt these external signs are accompanied by physical changes in the nervous centres, whether these be due to emotional causes or to disease. In striking contrast to this condition of irritability is that state where the healthy and natural protective sense of pain is overpowered by some strong sensation or emotion. An example of the latter is seen when a man engaged in fierce

combat is wounded without knowing it; of the former, when in certain skin diseases the patient with his nails tears his skin with fierce satisfaction in a manner which in health, and still more in certain other forms of skin disease, would give rise to a frightful torture.

Irritability of temper associates itself with many forms of weakness and bodily ailments, especially with some of those functional ones noted in the second chapter; it is also not unfrequently found with more permanent bodily defects, with some much more than others; thus comparing the cases of loss of our two highest senses, we find irritability very frequently associated with deafness, and very much more rarely with blindness. Some of the reasons of this probably lie deep in the anatomy and physiology of the brain, but some more on the surface; thus, it is far more trying to friends to converse with the deaf than the blind, and they are apt to lose patience; but even if they do not do so the mere act of raising the voice is apt to take away much that is agreeable in its tones. The deaf, too, are apt to give random and therefore occasionally very ridiculous answers. The derivation of the word absurd, *ab* from, *surdus* deaf, shows how

long this has been observed, and these crooked answers are apt to provoke laughter, which annoys. And, lastly, blindness is the greater evil, it elicits more sympathy, more help; it is a rule with human nature to express more annoyance at small evils than greater ones; the deaf, especially the partially deaf, are often complaining, the blind seldom :

“Parvæ curæ loquuntur, ingentes stupent.”

Resisting with an effort the temptation to quote examples, some full of deep pathos and familiar from childhood, and on the opposite side specimens of reckless drollery and unfeeling satire, I will merely remark that our literature contains many examples of sympathy with the blind, and not very merciful treatment of the deaf, and, I may add, of the cripple and the deformed.

Among the most ordinary facts of medical practice we observe alliances of special forms of irritability with special forms of disease, the connection of which we are utterly unable to explain. Irritability of the retina, extreme sensitiveness to light, is almost invariably associated with certain ophthalmic and even general diseases, and not with others. And the most searching examination with the

ophthalmoscope, an instrument by which we light up and investigate the dark interior of the eye, reveals no change to account for it. Over-sensitiveness of the auditory nerve occurs in many diseases, as, for instance, after severe hæmorrhage; and irritability of the skin occurs, we know not why, in other morbid states. In certain departments of medicine we constantly find ourselves entering the twilight which borders on all sides the dark unknown; this is the birth and dwelling-place of many of those dim forms of pseudo-knowledge which dominate the mind and keep men unaware of their ignorance. In this region, while we thankfully make use of whatever real light we can gain even from small inductions, we need to hold many of our doctrines with docile humility, and to proceed in many parts of our practice with caution and tentatively. Thus only we can act safely.

CHAPTER VI.

CAUSES OF IRRITABILITY.

“Lightly seeds of care are sown,
Little do we note.”

THERE are many whose whole lives have scarcely afforded them an experience of any symptom noticed in this book. I congratulate them, and hope that it may continue so to the end. There are some who can scarcely affirm that one single day in the course of years has not afforded an example of one, or more, or many. Clearly, then, there is a constitution or temperament to which the term irritable especially belongs; and this includes a large number of those who are distinguished for quick perception and cultivated taste. With finer feeling there is acuter sense; enlarged capacity of pleasure involves increased liability to pain, but this is not all. It would be difficult to define in what the temperament

consists, the attempt to do so would be here out of place, but its existence can only be doubted by those whose powers or opportunities of observation or sympathy with suffering are defective. I am sure that we frequently give a handle to quackery by too off-hand a method of dealing with cases in which we do not discover or suspect organic disease.

As we are now about to treat of causes, it is not superfluous to remark that there is, perhaps, no subject in the intricacies of which men more frequently lose themselves. Strictly speaking, every event, thing, creature, condition, and circumstance, is the result of an unbroken chain of previous events, to which chain there is and can be no end, near or far, but in a great First Cause; to suppose the chain infinite is merely to shift the difficulty, not to lessen it. But not to wander too far, let the reader take some familiar event, for instance, the case of a ship in peril, and let him endeavour to sum up the varied causes in materials, workmen, crew, air and ocean, which determine whether, at a given time and place, it shall or shall not be wrecked; he will thus form some idea of the difficulties of the subjects with which we have to deal. If it be so hard

to ascertain the parentage and ancestry of any common event, it can scarcely be considered wonderful that etiology, as we call the science which investigates causes in medicine, should present a rather full share of strange and confused reasonings. Bearing this in mind, we will enter on the investigation of the causes of irritability, remembering that causes are generally cumulative, that the predisposing are often more important than the exciting, and that they are apt to be overlooked in proportion to their distance in point of time from the effect.

From what has been said in the second chapter the reader will be prepared to find that many of the causes of irritability, or morbid sensibility, are of such a nature as to be excluded from this work, both by want of space and as not forming fitting subjects for other than purely medical discussion. There are, however, others which it will be useful to notice, more especially as some of them are apt to be passed by from want of time in the consulting room, and are the subjects only of occasional attention in the case of those patients who come under more leisurely medical care, and even then some of them frequently escape notice.

Important among the causes of this state is overwork, mental much more than bodily. This acts injuriously in different ways. By overtaxing the nutrition of the brain, the supply of nerve force is diminished, the function of every organ of the body is impaired, though in each case but slightly, yet the aggregate effect is serious, and it is often first seen in the form of irritability of different surfaces and organs. If the digestive apparatus suffer, as it frequently does, the food no longer undergoes its healthy changes, and thus a defective pabulum is supplied to textures whose nutrition had been already weakened, and, unless the patient's case be seriously taken in hand, he is apt to go from bad to worse. Thirty or forty years ago this state was well described in accordance with the physiological and medical knowledge of that date by the late Dr. James Johnson. "*Haud ignarus mali miseris succurrere disco*"—"Myself a sufferer, I learn to aid the suffering"—is the motto on his title-page. Those who overwork often damage the process of digestion indirectly. Food is taken when they are too exhausted to digest it; the meals are often too far apart, or their times badly arranged; the food is hastily swallowed, not properly

masticated; the mixing of the saliva with it which occurs in chewing is as necessary to digestion as mixture with the other juices of the stomach and intestinal canal; and the preoccupied mind is too careless both as to the quantity and quality which is taken; and lastly, time is not allowed for that moderate repose of body and of mind which favours the digestion of a full meal. Anxiety much more than overwork tends to produce a weak and irritable condition. The prolonged suspense produced by the illness of those we love, the weary watchings, the ebbing of hope, the final bereavement, the melancholy duties and varied troubles which follow in its train, have especially this effect; at such times we are apt to encourage melancholy thoughts from a feeling of mistaken duty, but this is wrong and most deleterious. It is our duty to society to add no unnecessary shades of gloom; it is our duty to ourselves to endeavour to be cheerful, for just as muscular movements which we practise become habitual, so trains of thought which we indulge in are apt continually to recur; they cut, as it were, their channels in the brain. Anxious and melancholy thoughts should be dealt with as enemies; firmly resisted, they may

be put to flight. It is mere delusion to say we have no power over our own thoughts, we have as much power over them as over our emotions; by either the one or the other we may be sometimes overpowered, and yet in the main both are under our control, and our power over both is vastly increased by its habitual exercise. Beyond all doubt there are conditions of brain which favour gloomy forebodings, there are also, it is well known to physicians, conditions which favour exaltation, unnatural cheerfulness, and very fortunately the former are much the more amenable to treatment of the two. Melancholy and anxiety are frequently proper subjects for medical treatment. To some extent they are also subjects for self-treatment, but the different means of displacing morbid by healthy and cheerful thought belong rather to the next chapter. One of the most commonly available remedies is the wine which maketh glad the heart, alcohol in all its various forms, far spread and numerous as the dialects of men. In moderate and timely use it is a natural medicine, but it is so liable to abuse that we must class its excessive consumption among the causes of many a variety of irritability, both by its direct effect on the system and by

prompting to follies which bring in their train disease or sharp regret, and on the poor by the expenditure of means necessary for adequate food, clothing, and shelter. Alcohol, like all food and medicine, and it partakes of the nature of both, agrees or disagrees according as it is taken at proper times and in proper quantities, or not. It is digested and assimilated or not, and if not it tends to produce in time a gouty or bilious state, and to cause or aggravate a list of troubles much too long and too serious to be here particularised, but among these are many examples of irritability of surfaces and organs, and of mind. We should have to add to our list of predisposing causes a great variety of circumstances which produce weakness, proper subjects for the consulting room—over-suckling, fluxes, fevers, and other acute diseases, malaria, which produces for years strange irritability of the facial and other nerves, indigestion, gout, and eczema; there is so much mental irritability in some extensive cases of this latter disease that it almost seems, if the figure of speech may be permitted, as though the mind as well as the body had lost its protecting cuticle, but the list

of diseases exhibiting peculiar manifestations of irritability would be endless.

Heat and cold offer points worthy of mention. Prolonged cold, by depressing the circulation, by benumbing the nervous system, and generally by limiting vital action, greatly predisposes to combined weakness and irritability in many forms. In certain patients we often see this at the end of a severe winter; whenever this is observed it should be obviated by the most careful protection. Thick underclothing, even fleecy hosiery, if necessary, should be put on, dwelling-rooms should be well warmed, and fires lighted in bedrooms, at least during frost. For those who can do so it may be well to winter on the Mediterranean. If not attended to it is liable to eventuate in tubercular or other degeneration. The effect of prolonged heat is seen in the liver and other diseases of certain occupations and of tropical climates, which exemplify many kinds of irritability. Sudden heat and cold are entirely different in action. With the varied effects of sudden cold, as in issuing from a heated building into a cold wind, or when the north-easter follows damp and relaxing weather, the public is sufficiently familiar. The influence of sudden heat is less

noticed, but it is not less important. In some patients its relaxing effect is followed by a remarkable increase of irritability, especially if the head has been exposed to the sun, and these phenomena are seen in all gradations, up to those described under the name of sunstroke, a word, we may remark in passing, often applied to very different conditions.

Belonging, perhaps, like the above, rather more to exciting than to predisposing causes of irritability, for we cannot separate the two groups of causative influences by a sharply defined and impassable line, is residence in an atmosphere unsuited to the patient. Thus, there are those who, when in town, have always gastric, intestinal or bronchial irritability; the latter, I think, is most frequent, but on removing to the country these disappear. This is sometimes due to change of habits, and sometimes to cognisable unhealthy conditions of the town residence, but it is not always possible to discover any such influences. Speaking of two places of equal sanitary conditions as measured by statistics, it is common to hear patients who have the misfortune to be over-sensitive say, "I am always well at —, and never at —." More strange than all, there are some whose

health is decidedly better in the locality of inferior sanitary condition, but these are truly exceptional people; some of them are asthmatic patients. The explanation of these common facts would lead us too far afield; it would be different for different cases; we should have to consider soil, exposure, elevation, dryness, moisture, range of temperature, proximity of sea, water supply, and various other particulars. And here I digress for a moment to remark that impurity of drinking water as a cause of disease, both slight and serious, is not yet sufficiently recognised even in this country. In China, India, and elsewhere in the tropics, among dense populations, water is too often a "broth of abominable things;" many an intestinal worm or worse parasite, and many a pestilential fever, which kills either at once or by its effects, is directly derived from ova or from germinal poisons in it. It will be long ere chemists, geologists, and engineers, have supplied such countries with pure water, and, meantime, European life and health are unnecessarily wasted. It cannot be too generally known that the foulest water may be easily purified by the use of the permanganates, the cheapest form of which is Condylé's fluid. Water tinted

with this purple solution is agreeable to sight, smell, and taste. The permanence of the colour is a fair proof of the absence of the most dangerous impurity. A single lesson will teach an intelligent man how to purify, at a trifling expense, foul water in such a way that no other effect is produced but a slight and quite unobjectionable increase of softness. No one should visit hot and unhealthy lands without a supply of the necessary material, and the knowledge how to use it.

Emotional causes, the passions in their extremes, fright, grief, and even sudden joy, must be here enumerated. It is well known to physicians that these produce not only mental but bodily effects, both sudden and gradual; thus they give rise to remarkable alterations of secretion. Of this many readers of both sexes would be able to furnish examples from their own experience. The stoppage of the flow of saliva in the rice ordeal of the Hindoos may be mentioned as one. Another of the most striking is the change produced in the milk of nursing women; many well-authenticated instances are recorded in which this fluid has suddenly acquired unwholesome and even poisonous properties. They are known sometimes

to alter the nutrition of the whole body, causing pallor and emaciation, or they affect parts of it, causing visible changes in the skin, the hair, the nails. In a great variety of ways their influence on the nutrition of internal organs is made manifest; grief distinctly predisposes to tubercle and cancer. But, in fact, as may well be supposed, they especially tend to affect the nutrition of the nervous centres. Irregular convulsive movements, and many others of the so-called hysterical troubles of young women, are due directly or indirectly to this cause, but no sex nor age is free from their influence. When sudden alarm and mental shock are combined with severe mechanical concussion, as is frequently the case in railway and other accidents, both influences conspire to produce injury to the brain and spinal cord, not the less real that it is difficult of detection. Against ordinary contingencies these delicate organs are well defended by their bony cases and by their elastic, fibrous, and fluid supports, but not against such a shock as is produced by the sudden stoppage of motion more rapid than that of the swiftest runner. Though the aggregate effect on the patient's comfort and power of useful exertion is often serious, yet the

symptoms individually are frequently ill defined. Some peculiar varieties of irritability are often prominent among them. On the one hand, they must not be accepted without careful and watchful scrutiny; on the other, they will not be detected without detailed and sympathising inquiry. Some patients are found to make light of what is really a serious injury, while others fear results more serious than may accrue.

Some odours are excitants of peculiar kinds of irritability in some patients. The occasional effects of ipecacuanha, civet, and musk, may be quoted. Hay-asthma, the severe catarrhal symptoms produced by the air of hay fields in patients with very sensitive mucous membranes, is due rather to the large amount of pollen in the air than to the mere odoriferous particles, which are extremely minute. Hay-asthma has been ascribed to sudden heat, but the effects of this are perfectly distinct. The dust of different drugs, euphorbium for example, though an irritant to all, affects some much more than others. We might say the same of snuff. Some kinds of food affect the digestive surfaces of here and there a patient in a peculiar manner, so as to render it impossible for it to be eaten; the

patient suffering even if it be eaten unconsciously. This peculiar idiosyncrasy, the long word by which it is designated, may be either temporary or permanent. Most articles of diet come at times under suspicion, but the culprits most frequently detected are, perhaps, pork, veal, shell-fish, oatmeal, eggs, cayenne pepper. In prescribing medicines internally, and even externally, physicians are tormented by a similar idiosyncrasy. In neither case can it be either predicted or explained.

It is, perhaps, not out of place here to remark that excessive consumption of tea and tobacco, though the latter does not do all the harm with which it has been credited, produces in some constitutions, and increases in many more, certain forms of irritability.

I conclude this chapter with a *casus omissus*.

One effect of the irritable temperament is a tendency to sharpness of speech in words and manner, and in most private circles there are some subjects on which acrimonious discussion readily arises, generally on matters which have been often uselessly discussed before. These jangling word strifes are so injurious that I have no hesitation in classing them among causes provocative of irritability, and the tact

that avoids them does more for human happiness and health than many a scheme of pretentious benevolence.

Ye powers who rule the tongue, if such there are,
And make colloquial happiness your care,
Preserve me from the thing I dread and hate
A duel in the form of a debate,
The clash of arguments and jar of words,
Worse than the mortal brunt of rival swords.

CHAPTER VII.

REMEDIAL INFLUENCES.

“Blande, veni, somnule.”

SLEEP is our best restorative and one of the most useful means of removing irritability, especially that of the mind, but not that alone. While we sleep soundly that part of our brain by which we can fret and worry ourselves is thrown out of gear, our power of will and muscular action is suspended, and, while the few functions which remain waking tend the flame of life, repair is active in those tissues whose functions are in abeyance. Over the greater part of the brain and its appendages, with its museums of world-wide thought and its wondrous machinery in action, sleep comes like night over a kingdom—all is at rest. But that sleepers may lie secure there must be watchmen ever wakeful; certain centres of brain-

matter, the respiratory for instance, obtain and seem to require no sleep. All that belongs to thought, consciousness, volition, and voluntary movement, is or should be at rest during sleep; all that belongs to what is often called vegetative life goes on. We will notice only the most striking example, the heart. We sleep, but our hearts wake; they never can sleep from the earliest dawn of life till the last closing shade of death, but though ever wakeful their work is not at all times equally heavy. In sleep they are not disturbed by emotion or by calls for exertion, the cessation of many functions lessens the demand upon the circulation, and the horizontal posture lessens the resistance which has to be overcome. Nutrition exceeds wear and tare, and the heart's muscular power is restored. This is important, for a weak and excitable heart is a large factor of most kinds of irritability. Sleep lessens irritability in so many ways that the attempt to trace them would lead us far beyond the most liberal bounds of popular physiology. Happy those who can always sleep when they compose themselves to do so! All literature, sacred and profane, ancient and modern, records the eager wooing of sleep when she denies herself to anxious,

sick, or suffering men. Besides the means of attaining sleep which our pharmacopœia offers, and I would be one of the last to depreciate the value of these, and last to recommend patients to quaff such nepenthe at their own discretion, various expedients of more or less value have been resorted to. I select those that seem worthy of mention.

First, there is the arrangement and regulation of food. Too empty a condition of the blood-vessels is unfavorable to sleep, and hence an evening meal, a light supper, will enable some, especially those whose dinner hour is not very late, to sleep well who cannot do so when tea or coffee has been the last thing taken. Next the regulation of stimulants. A certain force of the circulation is favorable to sleep, and hence a large number find that a stimulant at bedtime is conducive to it; with a few this has the reverse effect, and renders them feverish and wakeful, but it is not so apt to do this if all excitement be avoided after taking it.

Moderate exercise brings repose, so does severe, if it be not greatly beyond that which we are accustomed to and can bear—it brings the sleep of the labouring man. But over-fatigue is unfavorable to sleep; most people

discover this sooner or later. I choose an example familiar enough to my travelled readers. My own experience of the matter was in all respects much better.

“Nine weary up-hill miles we sped,
The setting sun to see;
Sulky and grim he went to bed,
Sulky and grim went we.
Seven *sleepless* hours we tossed, and then,
The rising sun to see,
Sulky and grim we rose again,
Sulky and grim rose he.”

The necessity of rising at a given hour much earlier than usual is another disturbing element in this case.

Lying wakeful, or restlessly tossing, thoughtful men—who are, perhaps, peculiarly liable to this state—have tried many ingenious expedients for attaining to that sort of easy vacancy of mind which is the usual prelude to sleep. Wordsworth thus describes a trial and failure :

“A flock of sheep that leisurely pass by,
One after one; the sound of rain, and bees
Murmuring; the fall of rivers, winds and seas,
Smooth fields, white sheets of water, and pure sky;
I’ve thought of all by turns, and still I lie
Sleepless——
Even thus last night and two nights more I lay
And could not win thee, Sleep! by any stealth.”

Sometimes the thoughts may be drawn off from painful subjects by such contrivances ; it is, however, difficult, and probably they are altogether much less frequently successful than the means offered by religious thought, in which there is more philosophy and common-sense than some clever people think.

A common principle underlies several other methods of inducing sleep : it is this. The rhythmic recurrence, the repetition at a regular interval, of the same sensation, and that not too powerful, has a soporific effect. This applies to at least three senses—sight, hearing, and feeling.

1. Let the reader on a summer day throw himself supine on the grass beneath a tree whose leafy boughs are gently swayed to and fro by the breeze, and he will feel the influence of which I speak. Or on the sea-shore let him fix his eyes on the moving mast of a little vessel rocking slowly at her anchor near him. Or in winter, by firelight, let him watch the flickering shadows or the monotonous play of the flame.

2. The purling of a little brook, the sound of a water-mill, or of calm sea-waves breaking, monotonous reading, the continued repetition

of a simple musical phrase in a lullaby, will serve as examples of soporific sounds. A musical note differs from noise in the regular recurrence of the air-pulse, but too rapidly, of course, to be heard. This admits easily of experimental proof. The use of music to induce sleep is an oriental luxury of very ancient date.

3. The rocking of an infant's cradle, or the carrying and swaying a restless child by the nurse, to coax it to slumber, will exemplify the third case. The recurrent movements of the medical rubber are at times very useful in inducing sleep, permitting the patient to dispense with opiates, but watchfulness is required lest some of the risky and deceptive proceedings of popular mesmerism mingle with this.

Frequently more than one of these senses is appealed to at the same time, intentionally or not, as when a nurse both rocks and sings, or when a speaker with droning voice and uniform gesture sends his audience, or some of them, to sleep.

During sleep the eyes habitually turn upwards under the upper eyelid, and hence it has been recommended that the sleepless should look at an imaginary object in that direction above him, retaining the eyes thus open. This

seems, sometimes, to induce a sense of sleepiness in which the eyelids fall in quiet slumber. The mesmerist takes advantage of this principle in the midst of his hocus-pocus.

Suitable posture is important; some whose circulation is weak sleep better with the head low; others, for different reasons, with high pillows. Compression of the region of the heart, as by sleeping on the left arm, or by the internal pressure of a stomach over-distended with food or wind, especially in the supine position, produces nightmare or troubled rest. Darkness conduces to sleep, but some timid people and children sleep better with a light; fear keeps them wakeful. Complete ease of body, comfortable warmth, silence or accustomed noises only, the satisfaction of the appetites, the removal of causes of irritation, the evening bath with its accompanying cleansing and friction of the skin, and a regular and early bedtime, are worth mention. Most irritable patients require rather a full allowance of sleep, but there are several circumstances which modify this rule in certain cases.

Next to the nightly rest in soothing effect on the cerebral or mental kind of irritability I incline to place the weekly rest which the prac-

tical sense of the great majority of Englishmen teaches them so resolutely to preserve. However its hours may be employed, it breaks the ordinary routine of business; there is no post nor daily newspaper; in one way or another it diversifies the otherwise monotonous course of existence, and its leisure hours tend to unite families, classes, and society itself. During public worship the serene calm of the day is enhanced; the influence of music, itself of great importance in other ways, is brought to bear in perhaps its most beneficial form, whether, as in communities which have felt the full force of the Reformation—

“ They chant their artless notes in simple guise,
And tune their hearts, by far the noblest aim,”

or whether, as where the love of art is more generally diffused, a service more impressive to the eye is performed—

“ Beneath the high embowed roof,
With antique pillars massy proof,
And storied windows richly dight,”

and the ear is charmed by vocal harmony, the grandest of musical instruments accompanying the grave and stately song.

Next in order we may mention holidays, and perhaps it were well that these were more

frequent and enjoyed with a little more *abandon* than is common to the ordinary English nature. The elasticity of the spring is preserved by its occasional freedom from tension.

The philosophy of amusements is part of the therapeutics of morbid irritability of mind. The body requires partial rest when it is not sleeping, so does the mind. Thought is more healthy and vigorous when not always bent on one set of subjects. Some find their play in a change of work, but these are few; to the most something usually recognised as amusement is necessary. The public feels that those who amuse it are its benefactors, and rewards them for the most part well, and the public is right. It is quite in accordance with the dictates of the soundest judgment at least sometimes to take no thought for the morrow, and sometimes the truest wisdom is not to be wise at all. There is room for much judgment in the selection of amusements, and in the proportioning the use of them according to the patient's condition; they must be such as to take hold of the mind, and yet not too deeply, --playfully to ripple the surface, and not to stir it to its depths. Thoroughly good directions cannot be given without studying the peculiarities

of the patient. What is amusement to one is an overpowering tax on the attention of another, in the same manner that what is sufficient bodily exercise to one is fatigue to another. There are some whose minds seem to carry amusement with them; they are ever easily pleased and ready to please; they have that invaluable mental possession—

“Delight in little things,
The buoyant child surviving in the man.”

Not all are so fortunately constituted.

Adequately to treat this subject would expand the chapter to the dimensions of a volume; we have only space for a few brief remarks. First, as to associates, the frequent companionship of those whose minds are rather serene and cheerful than mirthful and witty is to be preferred; the melancholy and irritable are usually instinctively avoided, they certainly do harm. In these days it is not superfluous to remark that materialistic opinions prominently put forward in conversation tend to increase mental suffering and irritability; a habit of mind which occasionally recreates itself in the realms of imagination or poetry, and which allows itself to look forward to the realms of faith and hope, diminishes the sense of many a present and

petty annoyance, and, so far from weakening the mind's grasp of facts or power of business, it is a mental tonic of the first order.

In favorable weather those amusements which take a patient much out of doors are best; foreign travel, particularly for those of active minds, is especially beneficial; new scenes, new manners, new languages, small *contre-temps*, entire change of diet and habits, efface many an old line of carking care and fretting thought, and substitute so strong a current of new ideas as almost to give rise to the sensation of a new existence; the changes of air, vicissitudes of temperature, increased movement, greatly enlarge the appetite and exorcise a host of nerve, stomach, and other troubles. This is remarkably so among mountains, where the simplest fare, the purest water, and the most vigorous exercise in the purest air, are combined with the purest intellectual pleasure. No wonder that the born mountaineer should long to revisit his Alpine home. Surely the wandering health-seeker need not quickly tire of those giant masses, escarped and rugged, whose forms embody strength and duration—of valleys whose history is graven on rocky shoulders by glaciers which crawled down for ages where

now is the pine, the pasture, the chalet, the garden and the village—of lakes that more than double the beauties they reflect, and distant snow-capped peaks, whose changing cloudlike tints are more of sky than of earth. Every tour I have made among mountains has left indelible photographs on my memory, which often rise in vivid light, cheering the mind when filled, as the physician's must be, with the images of disease, decay, pain, sorrow, and death.

Horticulture is worthy of a distinguished place in this chapter. Bacon calls it "the purest of human pleasures," "the greatest refreshment to the spirits of man." His ideal garden of 1625 is a pretty conception, and quaint withal.

Amateur farming, the gun, the sketchbook, the rod (shade of Isaac Walton! forgive me for passing so lightly), out-of-door games, golf, cricket and the like, the pursuit of certain branches of natural history, offer to different ages, circumstances, and temperaments, some of the same benefits, though in a less degree. The different methods of taking out-of-door exercise—rowing, sailing, riding, driving, walking—have each their advantages in different places and for different patients.

Our climate, to which, as a race, we owe so much, and to the abuse of which so large a portion of English speech is directed, does not allow of passing so much time in the open air as is desirable for most irritable patients; this gives additional importance to the question of indoor amusements. By unremitting mental work or by fixed habits of gloomy thought the irritable patient has generally lost all enjoyment of the *dolce far niente*, all that pleasure in conscious existence without action, which is so natural to the majority of uneducated humanity. To him it is a misfortune to have entirely lost a habit which generally requires, in early life, so much harsh and needful discipline to conquer it. Neither a full meal nor a long fast suits an irritable stomach, in like manner for the irritable brain too much thought is injurious, but no thought at all is an impossibility—

“Absence of occupation is not rest,

A mind quite vacant is a mind distressed”—

a truth, by the way, of recent recognition in our asylums and hospitals; when left entirely alone and unoccupied, such patients usually fall into old trains of anxious and harmful thought. The good temper and tact of women, and even the simple vivacity of children, have

here a wide field for beneficial action. Continuous reading is not to be recommended; the patient should usually read less than he has been accustomed to; a novel, for instance, devoured at a sitting is apt to be followed by low spirits and digestive troubles. All the arts deserve a place among remedial influences, chief among them music; its popularity is in part an instinctive recognition of this fact. In a far less degree the graphic arts, painting—

“Soul-soothing Art! which Morning, Noontide, Even,
Do serve with all their changeful pageantry.”

Poetry, too, can charm away black cares—

“———Minuentur atræ
Carminè curæ.”

Literature and science may, perhaps, claim a place, but their excessive pursuit would certainly rank among the causes of irritability. Various little occupations, amateur handicrafts, the more different from the patient's usual employment the better, are at times very useful. So are games of many kinds, billiards, cards, draughts, chess, &c., provided they be not played so as to be too engrossing. The more social amusements, the extent to which a patient shall mix in society, require to be pro-

portioned to strength of body and power of attention, as well as to inclination and habits ; this may be said of theatrical representations and all the various forms of convivial assembly.

Of two sufferers from cerebral irritability, the one of active and social, the other of reflective and quiet, habits, the course which would benefit the one would prove extremely injurious to the other. Some of the latter temperament are especially liable, if towards evening their attention have been in any way overstrained, to a condition of the brain in which some part retains its activity long after they attempt to sleep. For them the last occupation should be as little exciting as possible, anything that requires no thought ; if they have been much excited perhaps there is nothing better than a stroll with a cigar, or without it, under the starry sky, when—

“From the cool cisterns of the midnight air
The spirit drinks repose.”

To those who contemplate nature with the eye of the artist and the man of science her pleasures, almost alone of earthly things, never pall, her sweets never cloy. It matters not what her mood, she always pleases. When the brain

is worried and wearied by a day's hard study or work there is no more healthy relaxation than to welcome the first crescent of the moon in the calm evening sky, to breast the autumn winds when they swing the boughs and drive the sere leaves and scudding clouds, or to tread with rapid step the frosty ground. The love of nature and the appreciation of her myriad aspects add grace to the monarch, refine and elevate the peasant, delight the child, and soothe irritability, even on the death-bed.

Some irritable patients suffer from no exposure unless too prolonged; this is by no means the case with all; some, especially, of those who do not habitually go out in all weathers readily take cold, and their habits must be regulated accordingly. Some who do not take cold suffer a slow diminution of vitality from the numbing effect of a long winter, and this causes different kinds of degeneration, of malnutrition, and hence of irritability. To such a winter on the Mediterranean, or even on our own south coast, or in the channel islands, is useful.

The importance of suitable residence to some sufferers from different forms of irritability will be evident from what has already been said in the previous chapter. Too frequently it is not

matter of choice ; if it be, a correct determination is most safely arrived at by observing the effect of occasional changes of place and of weather. To some cases a town residence is not injurious ; perhaps the most generally suitable are airy situations, on porous soil, gravel or chalk, in the south of our island.

Change of place has an influence for good, bodily as well as mental, even for those whose habitual residence might seem the healthiest possible. This is so even between places where meteorological observations show no very tangible differences, much more if they strongly contrast. The ocean which surrounds our island, mitigating the winter's cold and the summer's heat, and clothing our pastures with turf seldom scorched, at the same time renders moisture the great characteristic of our climate ; hence, temperature apart, the change to a dry climate is almost the greatest we can make. When we travel south and east we leave the sea, surround ourselves with land, and find a drier atmosphere, especially when separated from the ocean by ranges of hills. This change of itself often proves very beneficial to irritable patients.

Given an irritable state of the mucous membranes this is apt to be aggravated by the

contact of certain solids, fluids, and gases, according to their chemical and mechanical properties. In some, cold air has this effect on the cavities of the nose, the tonsils, throat and windpipe. In men this kind of irritability is often much diminished by allowing the unrestricted growth of hair, part of nature's respirator. This is a very different thing from the much vaunted and ingenious metallic contrivance by which patients breathe again the moisture condensed from their own breath, and obstruct the free flow of the air, two great mistakes. A patient who observes the rule, when in cold air to "inspire with the mouth shut," has little need of other respirator. If the nose be obstructed this is a matter requiring attention.

When the digestive surfaces are irritable, a case all too common, the nature of nutritive substances brought into contact with them is of the highest importance; in some cases the regulation of quantity is the cardinal point, in others mechanical condition, the most compact nutriment being readily digested provided that it be soft and tender, perhaps even a smooth pulp; with other patients the chemical nature is more important.

The individual items of diet, their purity and freshness, the order of succession, the interval, and times of meals, eating without hurry,—proper mastication for which, as well as for the due mixture with saliva, so important for complete digestion, sound teeth, artificial if not natural, are required,—are among the points requiring intelligent or skilled attention.

The regulation of stimulants is equally important; there are few patients who should invariably take them, that is, with no intermission whatever; there are few, except children, who should never take them—but the when? the what? and the how much? cannot be answered here.

Some patients with considerable, though perhaps rather latent, strength of constitution, on adopting an abstemious rigid regimen experience an extraordinary feeling of lightness and elasticity—

Spare fast, that oft with gods doth diet.

But this feeling, like the similar one which some find to follow mercurial or other purgatives, as well as the application of leeches or the operations of cupping and bleeding, now almost confined to text books, is dangerous. I

have known the feeling produced by the latter to cause a physician to bleed himself to death, so the sensation of relief following the former sometimes leads a resolute patient under self treatment into the adoption of a course of diet which is in the end not sufficiently nutritious. When any individual essential article of habitual diet is found to be followed by irritability of any kind, the selection of a proper substitute for it is of great importance. In the previous chapter we have noticed some such offending substances. Coffee and tea are occasionally found to have this injurious action and are replaced with much advantage by chocolate or cocoa.

With the subject of baths I conclude this chapter, which is really both too long and too short, too long I fear for the reader, but much too short for the subject. The evening warm bath, not too frequently, the whole skin being cleansed with such soap as is suited to it, is sometimes very useful. If the circulation be sufficiently powerful for full reaction, the cold morning bath, fresh or salt, a momentary plunge, no shivering on the brink or dawdling in dressing, does good to a few. The cold sponging, chiefly of the spine and nape of the neck, suits more; the morning shower bath

also. These cold baths are best for the young. The Turkish or Roman bath with its sham-pooings and sudden changes of temperature charms away some kinds of irritability, especially during weather drier than is usual in our climate. Principles which we have indicated in this chapter will give the intelligent reader a clue to a part of the benefit derived from different spas and springs, the grape, the whey, the water cures and so forth. Individuals forget health precepts at every moment; our race seems to lose sanitary knowledge sooner than any other. Rome was once more populous than London not long ago. Ruins of aqueducts, cloacæ, inscriptions and scraps of manuscript are all that now tell of sanitary arrangements, probably by far the best then in the world. I conclude this chapter with an inscription from the Thermæ of the Antonines, a sort of combination of baths, gymnasium, institute and club. We might inscribe it at all our health resorts:—

CVRÆ • VACVVS • HVNC • ADEAS • LOCVM
VT • MORBORVM • VACVVS • ABIRE • QVEAS
NON • ENIM • HIC • CVRATVR • QVI • CVRAT,

CHAPTER VIII.

CONCLUSION.

O what a cantie warl' were this
Would pain, and care, and sickness, spare it.

IRRITABILITY is found at all ages ; it abounds in the nursery. Some of the youngest infants give it vigorous, if not articulate, expression. Even when they are growing and thriving finely they not unfrequently leave no doubt of the existence of infantile irritability on the minds of all within earshot. Removable causes should always be looked for with extreme care, and they are often found, gastric, intestinal, cutaneous or other irritation, acidity, and the like troubles from improper food, pain or other results of nature's dentistry, or something that has alarmed the new arrival in a world still so strange. With infants there is more difficulty than usual in distinguishing the physical from

the mental, the explicable from the inexplicable; but the want of speech is to some extent made up for by the greater development of emotional and reflex expression at this early period of life. For the most part, however, the irritability of infants is combined with distinct bodily disorder, often very remediable, and with them the clouds do not usually return after the rain.

The age of boyhood, youth, and early manhood, is more free from irritability than any other period of life, especially if due regard be paid to conditions necessary to health, and the boys are well worked and encouraged to vigorous and manly games, especially in the open air.

Their's buxom health of rosy hue,
Wild wit, invention ever new,
And lively cheer of vigour born;
 The thoughtless day, the easy night,
 The spirits pure, the slumbers light,
That fly the approach of morn.

Living in a constantly widening circle, with a sense of ever increasing knowledge, and increasing power, with life all before them, over whose pictured scenes distance throws the witchery of its colouring, what have they to do with irritability? Well, sometimes they don't escape it; it comes with disease, temporary or

permanent, fatal or not, with injury, with deformity, with excess of mental labour,—shall we say with genius?—with excess of thought, with frail bodily conformation; witness Kirke White, Byron, Watt, Wedgwood, Scott, and a host of others.

We have said that no age or sex is free from its peculiar examples of irritability, morbid sensibilities, bodily and mental. Of this girls and young women furnish many striking examples, to some of which we have briefly referred before. To many of these their sex predisposes; to some, peculiarities of training, education, occupations, habits, and fashions, predispose, and emotional and other causes which cannot here be treated with the necessary amplitude, are superadded. The whole group of symptoms comprised under the popular name hysteria, an agglomeration of things utterly diverse, requires, as much as any subject in medicine, to be entirely recast in order that the professional knowledge of them may progress with the progress of science.

Occasionally we see an aged man, past fourscore, more cheerful, buoyant, and companionable than many a youth, noted for resource and judgment, with cheerfulness and

wit, busy to the last, and seeming to triumph over the laws of matter; he falls by some sudden stroke or brief illness. Few, but surely fortunate, those to whom death comes thus unannounced. To most he sends his forerunners, weakness, pain, care, irritability, melancholy, with all their grim sisterhood. Warning attacks of illness and failing strength make it necessary that the sphere of bodily action should slowly narrow, just as in infancy it expands; most fortunately for us the sphere of thought need not thus narrow, it may go on expanding almost to the last; this is wonderful, but this is true. By thirty years of age the development of our frames is complete; long after sixty, in men of temperate habits and well trained minds, the brain goes on improving as an organ of thought; the ripest wisdom of the statesman, the jurist, the philosopher, the divine, and the physician, is not unfrequently put forth at an age when decay and degeneration is already stamped on many a tissue of the body. But there is another side of the medal,—a large number of the aged approach the gates of death by slow and sometimes equal step, and while the nutrition of heart, lungs, liver, kidneys, and their companion viscera is slowly deteriorating with an equality

which is an actual safeguard against sudden death, the brain suffers in like manner. The impressions of sense and the impressions of memory are confused, and with both there mingle subjective sensations, impressions on the nerve apparatus of sight, sound, smell, taste, or feeling; the patient is delirious, talks wildly, and yet is often basing what he says on these unreal impressions. The nurse should not attempt to reason them away; these spectral visions are best displaced by a sudden change of light, or by presenting to the patient some brightly coloured object, such as a bunch of flowers or otherwise attracting the attention. The annoyance caused by tormenting sounds or voices may be alleviated by gentle and soothing words; perfumes to wet the forehead, and varied beverages to moisten the mouth, are also useful. Aberrations of feeling are rendered less noticeable by the touch of the friendly or affectionate hand. Nothing shows more the tact of the nurse than the manner of dealing with these shadowy forms, evoked by causes entirely physical, but causing even to strong minds under the weakness of disease, much mental suffering. They are, as it were, goblins which beset the valley of the shadow of death, whose voices and

shapes the wayfarer fails to distinguish from his own perceptions. Intelligent patients are often well aware that they are not real ; I have often heard them express at the same time this conviction, and also the annoyance which they cause. The sick as well as the aged are liable to these visitations, and the thoughtful reader cannot fail to perceive what terrible powers are here ready to the hand of those who will stoop to trade upon the weaknesses of frail and failing humanity ; nor on the other hand what a field is here to minister comfort, whether clerical, medical, or friendly. At this time the patient is often liable to paroxysms of irritability, which cause much pain and distress to himself and his friends unless judiciously managed. The sufferer often speaks indistinctly and is misunderstood, and this frets him ; he has little breath to spare, and little precision of the muscles of articulation—not seldom he substitutes one word for another ; if the error be discovered his sentence is perfectly intelligible, and his face will brighten. I have had the opportunity of watching, no unobservant spectator, materialists and simple-minded Christians and many shades between, as principals and attendants in such scenes, and it is but the merest candour and common

honesty to confess, and that perfectly in conformity with known physiological principles, that the suffering of those who are under the influences of habits of thought and belief, which withdraw, at least occasionally, their thoughts from the misery and hopelessness of their bodily conditions, is thereby generally greatly lessened, and to the physician there is the greatest possible difference between the pain of witnessing the death of the one and of the other.

An average of about two years of sickness, according to the rough reckoning of available statistics, is the common lot. To some there falls much more, to some much less, to a very few none. Sickness always presents some examples of irritability; it affects the nervous apparatus of the eye,—the patient cannot bear the light; or of the ear,—sounds distress him; a rough touch or movement of the bedstead jars through the frame, and taste and smell are fastidious: the enemy is at all the five gates. He is also within,—the mind or brain is irritable, and the nurse, attendant, or friend of the sick, must display much self-command and gentle firmness. A really good nurse requires great intelligence, fore-thought, and natural tact, to

avoid noise, talking of the patient within hearing (and hearing is sometimes very acute in sickness, when there is scarcely breath for words), to avoid hurry, to listen and to speak in a suitable voice and manner, to amuse without wearying, to arrange all the surroundings of a patient with order and cheerfulness, to bring the right food in the right quantity at the right time, and gently to urge its being taken, and not put aside till no longer nice. To observe the patient's peculiarities and disposition, to consider whether amusement, food and drink, or repose, is likely to be needed, the flexibility which adapts itself to the child, the aged, or the adult, all these are qualities of no mean order. They presuppose a forgetfulness of self, a study to please, and a love of doing good, which are rare qualities, but are more often found in women than in men; training may guide these qualities and render them more efficient, but it cannot originate them. The temperature and ventilation of rooms has much to do with the manifestation of irritability; in a hot or close room many patients are restless or irritable who cease to be so when the room is well ventilated, and the thermometer is allowed to rule the amount of fire and the admis-

sion of air. In bronchial and pulmonary cases irritating cough is often much alleviated by judicious regulation of temperature. It is too often neglected, and attention given to matters beyond comparison less important for recovery. In cardiac attacks, under the strange irritable feelings of threatened cessation of the heart's action, a cold pure air and freedom of the chest and throat to respire it fully, is of great consequence. In irritability of the stomach the quantity of the food and the intervals at which it is given are as important as its quality, and attention to this will often make the difference between digestion, or nausea, pain, and vomiting.

The irritability of convalescence is often trying to deal with, particularly in children, and in proportioning exercise, employment, and amusement of different kinds, the same tact is required now to restrain and now to encourage, to rouse the torpid and to calm the excitable. After fevers care of this kind is especially necessary, as the changes in the textures, due to a fever, are not over when the symptoms first cease—hence the frequent relapses in this disease; this, it seems, is not yet known widely enough.

Once in the life of each there comes in-

curable disease, and sometimes this is spread over a long period. To its victims death, instead of appearing with unexpected suddenness, shows himself at the end of a long vista and advances with slow step. Under such mortal doom many a strong mind has reeled, and some have anticipated the blow, some meet their fate with dogged resolution, with some there comes cheerfulness unwonted and unexpected.

The soul's dark cottage, battered and decayed,
Lets in new light through chinks that time hath made.

With many the moods of the mind are changeful, the courage is often braced, and often fails, and the mind brooding on its dark future breaks out into many a paroxysm of irritability, of which the trifle that is often the occasion, is very far from being the cause. Attendants should never fail to bear this in mind.

If, however, debility and disease must be struggled with it is better to be done in a glad-some spirit, a spirit which makes the feeble and even bedridden sufferer a benefactor of his race, one who can teach the suffering how to suffer. I have seen realised many times the following lines—

Sickness, 'tis true,
Whole years of weary days besieged him close,
E'en to the gates and inlets of his life.
But it is true no less, that strenuous, firm,
And with a natural gladness, he maintained
The citadel unconquered, and in joy
Was strong.

To say no more, such a spirit diminishes actual suffering, on the well established physiological principle, that pain from which the attention is diverted is less felt by far than if attention be concentrated upon it. To his fellow creatures thus under sentence of death, the most sceptical will not grudge the consolations of religion.

Here our sketches end. I have not scrupled for the reader's sake to inlay my pages with here and there a gem or pebble, and otherwise to endeavour to give life to what would have been a very dull book. For this infraction of professional gravity I anticipate with some confidence the reader's forgiveness. Few are likely to read these gossiping pages who have not had to suffer or to aid in sickness; I have hung on different meanings of the word irritability a number of remarks which they may find it useful to have read, and I have tried to tempt to the reading of them. Nothing that I have written will enable them to dispense with

medical aid, but it may prove a useful supplement to it by serving as a guide in many matters which are passed over for want of time and opportunity in the sick chamber or the consulting room, and by causing those who have care of the sick to think for themselves.

By the same Author.

GERMINAL MATTER AND THE CONTACT

Theory: an Essay on the Morbid Poisons, their Nature, Sources, Effects, Migrations, and the Means of Limiting their Noxious Agency. By JAMES MORRIS, M.D. Lond., Fellow of University College; Fellow of the Royal College of Surgeons, &c. Second Edition. London: Churchill, 1867. Cr. 8vo, price 4s. 6d.

"The first edition of this little work has had a rapid sale, and the author now presents the profession with a second edition containing much new matter. The book is an exposition of Dr. Lionel Beale's views on this important subject. The question is clearly represented and ably advocated. It contains some pregnant pathological suggestions, and certainly throws much light on the whole question of the contagiousness of disease. The author's views have a practical bearing, which it is all the more necessary to enforce, because, as he says, &c."—*British Medical Journal*.

"We esteem it highly, more especially for clear ordination and plain statement of facts. Dr. Morris is an author whom it is very easy to follow in argument, and it is a pleasure to read. These good points are so much enhanced by comparison with works that now-a-day abound, &c."—*Chemical News*.

"Dr. Morris furnishes us with a well-written and aptly-pointed discourse on the reproduction of the poisons of the spreading diseases. In doing this, he has achieved a great service, for there can be no doubt that his observations, if extensively read (and they deserve to be widely known), must tend to awaken people's minds to the activity of the zymotic poisons, and to the necessity which exists in all communities for prompt and energetic measures for their destruction. In this way Dr. Morris paves the road to a perfect and universally appreciated system of hygiene; and for this he merits the praise of the profession."—*Indian Medical Gazette*.

"A well-written and interesting little book. We cannot do wrong in following his advice to destroy germs of disease as far as possible; and the promulgation of the theory he espouses will be beneficial in suggesting useful action, and also in stimulating further research."—*Intellectual Observer*.

"The above is the title of a thoughtful and suggestive essay from the pen of a gentleman already well known to the readers of the 'Cutaneous Journal' by, &c. To these views of the author we cannot

refuse adhesion, and we are duly impressed with their important bearing upon social life and upon the management of the sick. We can assure our readers that an occasional half hour of perusal and reflection devoted to 'Germinal Matter and the Contact Theory' will not be without a harvest well worth the storing."

"The ink is hardly dry upon the pen wherewith we introduced the first edition of this work to our readers, and earnestly recommended them to read it over and over again, and give its subject a place in their memory, and make it a foundation of subsequent thought and future development. That we were right in our recommendation is proved by the speedy demand for a new edition. And we are glad to perceive that the author has availed himself of the interval to add considerably to the book, and to make it even more useful than it was before. We may sum up its merits in a few words; it is the work of a gentleman addressed to the educated minds of a learned profession; its subject forming the basis of everything that is most interesting in our daily practice, and embracing the elements of future progress. The book should be read by every member of our profession."—*Quarterly Journal of Cutaneous Medicine*.

"A second edition has appeared of a well-written little essay on the Morbid Poisons, &c. It is considerably enlarged, and, in our opinion, improved, nor can we consider it uncalled for. The author believes Dr. Lionel Beale's doctrines form 'a landmark in the history of our science.' We welcome this readable exposition of them, and would advise those anxious to understand them to peruse Dr. Morris's essay. We may fairly remark that any one who does not know what is meant by 'Germinal Matter' or is unacquainted with what Dr. Morris calls the 'Contact Theory' ought not to flatter himself that he knows anything about contagion, but should at once set himself to the task of supplying the deficiency of his information."—*Medical Press and Circular*.

"It is written with great care, and the views as applied to epidemics are of great importance. Viewed by their light many things become clear, and if, after due investigation, we can fully accept them, our knowledge will have made a very great stride.

"This admirably suggestive little work has, in its second edition (having passed through the first with unusual rapidity), been considerably enlarged and improved."—*Medical Times and Gazette*.

"Dr. Morris has done good service through the little book, the title of which heads this notice; he has presented in a forcible and convincing manner a subject which has long engaged the attention of hygienists. Dr. Morris applies his doctrines to many important questions, including the location of hospitals, the disposal of excreta, the draining of marshes, and to the use of suitable disinfectants. His book is exceedingly suggestive, and will repay careful perusal by all thoughtful persons, medical or others."—*New York Medical Journal*.

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